UCLA Long Range Development Plan Amendment (2017) and Student Housing Projects

Final Subsequent Environmental Impact Report

SCH No. 2017051024

Lead Agency | University of California, Los Angeles
1060 Veteran Avenue
Los Angeles, California 90095-1365

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January 2018

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Draft Subsequent EIR and Technical Appendices

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SECTION 1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that lead agencies consider the environmental consequences of projects over which they have discretionary approval authority prior to taking approval action on such projects. An Environmental Impact Report (EIR) is a public document designed to provide the lead, responsible, and interested agencies; special districts; local and State governmental agency decision makers; and the public with an analysis of potential environmental consequences to support informed decision making.

The University of California, Los Angeles (UCLA) proposes to develop on-campus undergraduate and graduate student housing on five sites in various campus zones: the Lot 15, Warren Hall, University Extension (UNEX), Bradley, and Drake Stadium sites. Because the proposed housing development was not contemplated in the 2002 Long Range Development Plan (LRDP), as amended in March 2009 (Existing LRDP), an amendment to add 1,500,000 gross square feet (gsf) is proposed. A summary description of the proposed housing developments and associated proposed amendment to the Existing LRDP (collectively the proposed LRDP Amendment [2017] and Student Housing Projects, hereinafter referred to as the "proposed Project") is provided below and a detailed description is provided in Section 3, Project Description.

This EIR has been prepared to address the potential environmental effects associated with implementing the proposed Project and has been prepared pursuant to the requirements of CEQA (*California Public Resources Code,* Section 21000 et seq.), the State CEQA Guidelines (Title 14, *California Code of Regulations,* Chapter 3, Section 15000 et seq.), and the University of California (UC) procedures for implementing CEQA. As discussed in Section 2.2, Type of Environmental Impact Report, and in accordance with CEQA, this Draft EIR is a Subsequent EIR (SEIR) and is "tiered" from the *UCLA 2008 Northwest Housing Infill Project and Long Range Development Plan Amendment Final Environmental Impact Report* (referred to herein as the "March 2009 LRDP Amendment Final EIR" or "Final EIR") (State Clearinghouse [SCH] No. 2008051121) certified by the University of California Board of Regents (The Regents) in March 2009.

UCLA has reviewed and revised, as necessary, all submitted drafts, technical studies, and reports for consistency with UC policies and requirements and has commissioned the preparation of this SEIR to reflect its own independent judgment, including (1) reliance on appropriate UCLA technical personnel and (2) review of all technical subconsultant reports. Data for this SEIR was obtained from on-site field observations; review of adopted plans and policies; review of available studies, reports, and data; and specialized environmental assessments prepared for the project (e.g., air quality, greenhouse gas emissions, noise, and traffic).

This Executive Summary has been prepared in accordance with Section 15123(b) of the State CEQA Guidelines, which states that an EIR should contain a brief summary of the proposed actions and its consequences and should identify (1) each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; (2) areas of controversy known to the lead agency; and (3) issues to be resolved, including the choice among alternatives and how to mitigate significant effects.

1.2 PROJECT SUMMARY

1.2.1 PROJECT LOCATION AND SETTING

Located in the community of Westwood in the City of Los Angeles, the UCLA campus is approximately 12 miles northwest of downtown Los Angeles and 6 miles from the Pacific Ocean. The UCLA main campus is generally bound by Le Conte Avenue to the south, Gayley Avenue and Veteran Avenue to the west, Sunset Boulevard to the north, and Hilgard Avenue to the east. The Southwest zone, also part of the main campus, is located immediately north of Wilshire Boulevard, generally between Gayley Avenue and Veteran Avenue. Figure 3-1 in Section 3.0, Project Description, of this Draft SEIR, depicts the regional location and local vicinity of the main campus.

The proposed housing projects would be developed at five sites on the main campus; the locations of these sites and a brief description of the setting are described below.

- **Lot 15 Site.** This approximate 3.1-acre site is located in the Northwest zone generally west of De Neve Drive, east of Veteran Avenue, south of the existing Hitch Suites, and north of the existing Saxon Suites. On-campus residence halls are located to the east across De Neve Drive. The Lot 15 site is currently developed with facilities used by the UCLA Housing and Facilities Management departments. Lot 15 is no longer used for surface parking; it is currently used for a portable office structure and storage containers. Veteran Avenue is to the west of the site, with single-family residential uses in the Westwood Hills neighborhood further to the west.
- **Warren Hall Site.** This approximate 3.9-acre site is located in the Southwest zone at 900 Weyburn Place North, west of Weyburn Place and north of Weyburn Avenue. Weyburn Terrace graduate student housing is located generally north, west, and south of the site, and there on- and off-campus multi-family residential units to the east, across Weyburn Place. This site (900 Weyburn Place North) is currently developed with Warren Hall (approximately 102,205 gsf), which houses various office uses and research facilities; the Hillblom Islet Research Center (approximately 7,200 gsf); and surface parking. These buildings would be demolished to accommodate the proposed Project. As further discussed in Section 4.4, Cultural Resources/Tribal Cultural Resources, Warren Hall, built in 1961, is eligible for listing in the National Register of Historic Place (NRHP) and California Register of Historical Resources (CRHR).
- **University Extension (UNEX) Site.** This approximate 1.0-acre site is located in the Bridge zone at 10995 Le Conte Avenue in the northwest quadrant of the Le Conte Avenue/Gayley Avenue intersection and east of Levering Avenue. The site is surrounded by residential uses to the north (off campus) and west (on and off campus); a gas station and other commercial uses in Westwood Village to the south; and on-campus uses in the Health Sciences zone to the east. This site is developed with the UNEX building, which houses the UCLA University Extension Program, and a surface parking lot. The existing UNEX building (approximately 93,204 gsf), is seismically deficient and would be demolished to accommodate the proposed housing development.
- **Bradley Site.** This approximate 1.1-acre site is located in the Northwest zone and consists of the undeveloped sloped area adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive, south of Bradley International Hall. Surrounding uses on campus include Bradley Hall to the north, the Mo Ostin Basketball Center to the east (under construction and across Charles E. Young Drive West), and Parking Structure 8 to the south (across Strathmore Drive). Gayley Avenue forms the western boundary of this site, and off-campus residential uses west of Gayley Avenue include various fraternity houses,

the UCLA-owned Gayley Tower Apartments, and University Lutheran Chapel (not affiliated with UCLA).

- **Drake Stadium Site.** This approximate 1.3-acre site is located in the Central zone at Drake Stadium, located south of Sunset Boulevard and east of Charles E. Young Drive West. To the northwest, west, and southwest, on-campus student residential buildings and commons are present across Charles E. Young Drive West. Straus Stadium and the Acosta Training Center are located to the south beyond Bruin Walk. To the north, a landscape buffer and off-campus, single-family residences are located across Sunset Boulevard. Drake Stadium is the home of UCLA's soccer and track and field teams. The proposed housing structure would be developed in the area over and surrounding the existing concourse.

1.2.2 PROJECT DESCRIPTION

The proposed Project involves an amendment to UCLA's Existing LRDP. The proposed amendment to the Existing LRDP would add 1,500,000 gsf of developable space allocated to student housing on the UCLA campus (hereinafter referred to as the "LRDP Amendment [2017]"). The remaining development allocation in the Existing LRDP is approximately 174,615 gsf. The proposed LRDP Amendment (2017) would retain the remaining 174,615 gsf of development allocation with no change in assigned use. The additional 1,500,000 gsf under the proposed LRDP Amendment (2017) would be designated for student housing to meet the housing guarantees identified in the *Student Housing Master Plan 2016–2026* (SHMP) to increase the housing guarantee for entering first-year students from three to four years; to increase the guarantee for transfer students from one year to two years; and to guarantee housing to new graduate students for a period of two years (up to seven years for graduate students with dependent children as long as the student is making normal progress to degree). Additionally, the proposed housing would help reduce the triple occupancy (3 beds in rooms designed for 2 beds) percentage closer to the 60 percent target identified in the SHMP (UCLA 2017).

UCLA has identified a potential to develop up to 6,900 beds on the 5 campus sites described above. The proposed development at each site would consist of residential and associated support uses. With the exception of the Warren Hall site, which would also provide graduate student beds, each of the proposed housing projects would provide undergraduate beds. For purposes of analysis, it is assumed that the first three sites to be developed include the Lot 15, Warren Hall, and UNEX sites, which is based on the ability to maximize the use of limited land resources and develop the proposed housing in timely manner. These sites would be available between fall 2021 and fall 2022. It is estimated that development at the Bradley and Drake Stadium sites would be completed by 2025. The proposed Project would also generate approximately 145 new staff positions.

As further described in Section 3.5, Proposed Student Housing Project Characteristics, of this Draft SEIR, the proposed housing development would total approximately 1,715,000 gsf of new building space for up to 6,900 beds. Development of the proposed student housing projects would require demolition of the existing buildings at the Lot 15, Warren Hall, and UNEX sites, totaling approximately 215,000 gsf, resulting in a potential net increase of 1,500,000 gsf of housing on campus. Following is a description of the proposed development at each of the proposed housing sites:

- **Lot 15 Site.** Existing structures at this site, including the Ornamental Horticultural buildings, would be removed, and the operations would be accommodated as part of the proposed housing project or elsewhere in the Northwest zone. This site would accommodate up to 1,800 undergraduate beds. Two mid-rise buildings totaling

approximately 353,000 gsf would be constructed; the buildings would be 8 and 10 levels. It is anticipated the following support uses would be provided at this site: vending food service (no dining facilities), spaces for various student activities, music practice/recording rooms, makerspace, common living/lobby areas, a mail room, and laundry facilities.

It should be noted that, as part of the proposed Project, The Regents would be requested to take action to modify the 1978 Stipulated Agreement of Compromise and Order (Order) entered by the Los Angeles Superior Court and resolving litigation filed by the Westwood Hills Property Owners Association against The Regents. This Order limits uses in the portion of the Northwest zone generally east of Veteran Avenue to "benign uses" as described in the Order. UCLA is proposing a modification to the Order to exclude the Lot 15 site from the land use restrictions that reserve the benign use zone for only benign uses.

- **Warren Hall Site.** Existing uses would be demolished to accommodate the proposed housing project at this site. The School of Medicine would determine which of the existing faculty and staff operating at this site would be relocated to other facilities on campus. The Warren Hall site would accommodate up to 2,350 beds (approximately 488 beds for graduate students and 1,862 beds for undergraduate students). Three mid-rise buildings totaling approximately 650,000 gsf would be constructed; the buildings would be 8 and 10 levels. It is anticipated that the following support uses would be provided at this site: multi-purpose, common study and meeting spaces, grab-and-go café, a mail room, and laundry facilities.
- **UNEX Site.** The existing UNEX building would be demolished to accommodate the proposed housing development, and existing occupants at this building would be relocated to leased space adjacent to the campus as part of a long-term plan to consolidate the University Extension Program into a new facility. The UNEX site would accommodate up to 1,350 upper-division undergraduate beds. The proposed building would be 350,000 gsf and configured with 9 and 20 levels (medium- and high-rise, respectively). It is anticipated that support uses at this site would include common study and meeting spaces as well as a mail room and laundry facilities.
- **Bradley Site.** This site would accommodate up to 600 undergraduate beds. Two mid-rise buildings totaling approximately 122,000 gsf would be constructed; the buildings would be 7 and 8 levels (with 1 partial subterranean level). It is anticipated that the following support uses would be provided at this site: a dining facility, a makerspace, common study spaces, meeting spaces, and laundry facilities.
- **Drake Stadium Site.** The proposed housing structure would be developed in the area over and surrounding the existing Drake Stadium concourse. This site would accommodate up to 800 undergraduate beds. The proposed mid-rise building would be approximately 240,000 gsf and up to 9 levels. It is anticipated that support uses at this site would include common study spaces and laundry facilities. Development of this site would also provide an opportunity to accommodate additional space for athletic programs associated with the stadium and nearby athletic facilities. The track and field of Drake Stadium would remain in use during the building construction for both recreation and National Collegiate Athletic Association (NCAA) Athletic team uses. Spectator events would be facilitated with mobile bleachers that are currently used on the east side of the field.

No student or staff parking would be provided at the housing sites, only limited parking for Americans with Disabilities Act (ADA) compliance, service and delivery vehicles, and pick-up/drop-offs would be provided. Bicycle storage and parking facilities would be provided. Landscape/hardscape, lighting, access, and streetscape improvements would be completed at

each site as necessary to serve the proposed housing projects. Additionally, on-site infrastructure would be installed to serve the planned land uses (water, wastewater, storm drains, and dry utilities). The on-site utilities would be connected to existing off-site utilities. Additionally, existing sewer lines in portions of Gayley Avenue and Veteran Avenue would be upgraded.

As identified in Section 3.9, Anticipated Discretionary Approvals, of this Draft SEIR, the actions to be considered by The Board of Regents (The Regents) of the University of California for the proposed Project include (1) budget approval, (2) certification of the Final Subsequent EIR, (3) modification to the 1978 Stipulated Agreement of Compromise and Order (entered by the Los Angeles Superior Court and resolving litigation filed by the Westwood Hills Property Owners Association against The Regents) to allow for residential development on the Lot 15 site, and (4) design approval for one or more of the proposed housing developments at the following sites: Lot 15, Warren Hall, and/or UNEX sites.

1.2.3 PROJECT ALTERNATIVES

In accordance with Section 15126.6 of the State CEQA Guidelines, Section 5.0 of this Draft SEIR addresses alternatives to the proposed Project. Section 5.0 provides descriptions of each alternative; a comparative analysis of the potential environmental effects of each alternative to those associated with the proposed Project; and a discussion of each alternative's ability to meet the project objectives. Following is a summary description of the alternatives evaluated in this Draft SEIR. In addition to the following alternatives being evaluated, the following alternatives were considered during the scoping and planning process, but were not selected for detailed analysis in this Draft SEIR: Alternative Off-Campus Site or Sites, Alternative On-Campus Site or Sites, and Alternative Land Use Program (Non-Residential). These alternatives are further described and discussed in Section 5.0.

Alternative 1: No Project/Development Pursuant to the Existing LRDP

Under the No Project/Development Pursuant to the Existing LRDP Alternative, it is assumed that development of the remaining Existing LRDP development allocation (174,615 gsf) would occur in the campus zone where the development square footage is allocated: 54,615 gsf in the Central zone, 110,000 gsf in the Core zone, and 10,000 gsf in the Southwest zone. Given the types of uses anticipated in each of these zones, it can be assumed that development in the Central zone would be related to recreational/athletic facilities or other student support services and development in the Core zone would consist of a new academic building. It is possible that development in the Core zone would involve redevelopment of an existing site (including demolition of an existing building). The remaining development allocation in the Southwest zone (10,000 gsf) is likely not sufficient for construction of a new building; therefore, it is also assumed that there would be redevelopment of an existing use.

Alternative 2: Warren Hall Building Adaptive Reuse

The Warren Hall Building Adaptive Reuse Building Alternative assumes that the existing Warren Hall Building, which is eligible for listing in the NRHP and CRHR, would be adaptively reused for graduate student housing. To maintain this building's character-defining features and historic integrity, modifications would be limited to the interior of the building for necessary abatement and renovation. The interior renovation would be designed to maintain the double-loaded corridors. Additionally, the building's window wall system would be maintained. Adaptive reuse of this building can be accomplished in compliance with the Secretary of the Interior's Standards; however, this would yield only up to 200 graduate beds. The Hillbolm Islet Research Building would be retained under Alternative 2, and the proposed improvements at the bus turnout/bus

pullout on the north side of Weyburn Avenue at the intersection with Weyburn Terrace would also be implemented.

Under Alternative 2, each of the remaining proposed housing projects at the Lot 15, UNEX, Bradley, and Drake Stadium sites would be developed consistent with the proposed Project. Therefore, with implementation of this alternative, the total amount of new development on campus would be 1,065,000 gsf. The existing UNEX building and buildings at the Lot 15 site (totaling 105,500 gsf) would be demolished; therefore, there would be a net increase of 959,500 gsf on campus. The proposed LRDP Amendment under this alternative would reflect this, and the amendment would be to allocate 959,500 gsf of new development to the Existing LRDP. Additionally, Alternative 2 would generate fewer staff positions than the proposed Project (approximately 138 new staff positions compared to 145).

Alternative 3: Reduced Development Area/Reduced Beds

Under Alternative 3, the Bradley site would not be developed with student housing and dining services and would remain in its current condition. There would be an overall reduction of 600 beds and 122,000 gsf of new development under this alternative. Additionally, with the elimination of the Bradley site, and the elimination of its associated 63 staff positions, the total staff positions generated would be reduced from 145 to 82. The reduction in development and employment generation (and associated staff trip generation) would reduce operational air quality emissions and the proposed Project's corresponding contribution to cumulative operational air quality impacts.

Each of the remaining proposed housing projects at the Lot 15, Warren Hall, UNEX, and Drake Stadium sites would be developed consistent with the proposed Project. Therefore, with implementation of this alternative, the total amount of new development on campus would be 1,593,000 gsf. The existing Warren Hall, the UNEX building, and the buildings at the Lot 15 site (totaling 215,000 gsf) would be demolished; therefore, there would be a net increase of 1,378,000 gsf on campus. The proposed LRDP Amendment under this alternative would reflect this, and the amendment would be to allocate 1,378,000 gsf of new development to the Existing LRDP.

Alternative 4: Alternative Northwest Zone Site/Sunset Canyon Recreation Center

Alternative 4 assumes that the housing project proposed at the Lot 15 site would occur at the Sunset Canyon Recreation Center (353,000 gsf of new development and up to 1,800 beds). Specifically, the proposed housing would be constructed east of De Neve Drive generally in the area currently developed with the existing amphitheater and sand volleyball courts (refer to Figure 5-1 in Section 5.0, Alternatives, of this Draft SEIR). The loss of recreational and athletic facilities that would occur in this area of the Sunset Canyon Recreation Center would substantially affect UCLA's ability to accommodate these uses. Due to the limited land available in the Northwest zone to accommodate any new development, including recreation and athletic uses, the displaced uses would need to be relocated to the Lot 15 site. This would include the relocation of passive and non-passive recreation uses, including but not limited to summer camps, concerts (Jazz Reggae Festival), conference groups, student events/programming, Outdoor Adventure Programming, BBQ/picnic rentals, and leisure activities. Restrooms, locker rooms, and showers would need to be installed, along with safety and security lighting, consistent with lighting currently provided at the Sunset Canyon Recreation Center.

The relocation of summer camps and other large group activities would potentially require construction of parking and an area for pick-up/drop-off needs, as these programs have substantial volumes of participants that are picked up and dropped off.

Consistent with the proposed development at the Lot 15 site, this alternative would require The Regents to approve a modification to the Stipulated Agreement of Compromise and Order for non-benign recreational uses, including sand volleyball courts and spectator seating.

Each of the remaining proposed housing projects at the Warren Hall, UNEX, Bradley, and Drake Stadium sites would be developed consistent with the proposed Project. Therefore, with implementation of this alternative, the total amount of new development on campus would be slightly more than 1,715,000 gsf, when taking into consideration smaller structures that would be needed to support the athletic and recreational facilities at the Lot 15 site. The existing Warren Hall, UNEX building, and buildings at the Lot 15 site (totaling 215,000 gsf) would be demolished; therefore, there would be a net increase of slightly more than 1,378,000 gsf on campus. The proposed LRDP Amendment under this alternative would reflect this, and the amendment would be to allocate 1,378,000 gsf of new development to the Existing LRDP.

1.3 ISSUES TO BE RESOLVED

Section 15123(b)(3) of the State CEQA Guidelines requires that an EIR contain a discussion of issues to be resolved, including the choice among alternatives and whether or how to mitigate significant impacts. With respect to the proposed Project, the key issues to be resolved include decisions by The Regents, as Lead Agency, as to:

- Whether this environmental document adequately describes the environmental impacts of the proposed Project;
- Whether the recommended mitigation measures and identified campus programs, practices and procedures should be modified and/or adopted;
- Whether the Project benefits override those environmental impacts that cannot be feasibly avoided or mitigated to a level below significance;
- Whether there are other mitigation measures that should be applied to the project besides those identified in the EIR; and
- Whether there are any alternatives to the proposed Project that would substantially lessen any of its significant impacts while achieving most of the basic project objectives.

1.4 AREAS OF CONTROVERSY

Section 15123(b)(2) of the State CEQA Guidelines indicates that an EIR summary should identify areas of controversy known to the lead agency, including issues raised by agencies and the public. This Draft SEIR has taken into consideration the comments received from the public and various agencies in response to the Notice of Preparation (NOP) and during the public scoping session held on May 31, 2017. Written comments received during the NOP and scoping period are contained in Appendix A of this Draft SEIR. Environmental issues that have been raised during opportunities for public input regarding the project are summarized in Section 2.3, Environmental Impact Report Focus, of this Draft SEIR and are addressed in each relevant issue area analyzed in Section 4 of this Draft SEIR. Additional input on the proposed housing project at the Lot 15 site was received by UCLA during meetings held with the Westwood Hills Property Owners Association (WHPOA).

Based on input received from the public during the scoping process, the areas of controversy known to the University at this time are related to the proposed development at the Lot 15 site in the Northwest zone. The primary concerns raised by residents in the Westwood Hills neighborhood, which is west of Veteran Avenue and the Lot 15 site, include (1) conflict with the Stipulated Agreement of Compromise and Order, which currently restricts development at the Lot

15 site to benign uses; (2) the height and massing of the proposed structures at this site and the potential impact to the visual character of the area; (3) potential increases in noise and traffic; (4) potential light spillover; and (5) potential impacts from construction activities.

1.5 SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS

Pursuant to Sections 15126.2 and 15126.4 of the State CEQA Guidelines, an EIR is required to identify any potentially significant adverse impacts and recommend mitigation that would eliminate or reduce these impacts to levels of less than significant. The environmental issue areas identified for study in this Draft SEIR are:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Geology/Soils
- Greenhouse Gas Emissions
- Hazards/Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation/Traffic
- Utilities/Service Systems

Sections 4.1 through 4.14 of this Draft SEIR provide the required environmental analysis for these topical issues. Table 1-1 presents a summary of the environmental impacts resulting from the proposed Project. It should be noted that the identified March 2009 LRDP Amendment Final EIR campus programs, practices, and procedures (PPs) and mitigation measures (MMs) carried forward are considered to be part of the proposed Project for purposes of determining the level of significance prior to mitigation.

As shown in Table 1-1, even with incorporation of the applicable March 2009 LRDP Amendment Final EIR PPs and MMs, the proposed Project would result in potentially significant air quality impacts (interim combined operational and construction emissions, cumulative construction, and cumulative operational emissions); cultural and tribal resources impacts (historic resources); hazards and hazardous materials impacts; construction-related noise impacts (project and cumulative); and, cumulative construction-related traffic impacts.

For the other topical issues (aesthetics, air quality [project], biological resources, geology and soils, greenhouse gas emissions, hydrology and water quality, land use and planning, operational noise, population and housing, public services and recreation, operational traffic, and utilities and service systems), the proposed Project would have no impact or a less than significant impact.

Even with implementation of project-specific mitigation measures, significant and unavoidable impacts that would result from implementation of the proposed Project. Because unavoidable significant adverse impacts would result from the project, The Regents, as Lead Agency, must prepare a “Statement of Overriding Considerations” before it can approve the project. A Statement of Overriding Considerations states that the decision-making body has balanced the benefits of the proposed project against its unavoidable significant environmental effects and has determined that the benefits of the project outweigh the adverse effects and, therefore, the adverse effects

are considered to be acceptable. A summary of the significant and unavoidable impacts of the proposed Project project is included below.

- **Cumulative Construction-Related Air Quality Emissions.** While the combined construction emissions from the proposed housing projects would be less than significant, construction of the proposed housing projects would potentially contribute to a cumulatively considerable net increase of ozone (O_3), a pollutant for which the Southern California Air Basin (SoCAB) is in nonattainment (volatile organic compounds [VOC] and nitrogen oxides [NOx] are O_3 precursors).
- **Cumulative Operational Air Quality Emissions.** While the combined operational emissions of O_3 precursors from the proposed housing projects would be less than significant, the operations of the proposed housing projects would contribute to a cumulatively considerable net increase of O_3, a pollutant for which the SoCAB is in nonattainment.
- **Historic Resource Impact.** Implementation of the proposed housing development on the Warren Hall site would require demolition of the existing Warren Hall building, which is considered a historic resource under CEQA. The demolition of this building would be considered a significant and unavoidable impact.
- **Construction-Related Noise.** Construction activities for each of the proposed housing projects would result in a significant and unavoidable impact related to a substantial temporary or periodic increases in ambient noise levels at on-campus sensitive uses. Construction activities for the Warren Hall, UNEX, and Bradley sites would also result in a significant and unavoidable impact related to substantial temporary or periodic increases in ambient noise levels at off-campus sensitive uses.
- **Cumulative Construction-Related Noise.** Concurrent construction activities associated with the proposed housing projects at the Warren Hall and UNEX sites and the previously approved Margan Apartments Redevelopment project, which is located between the two sites, could result in cumulative construction-related noise impacts to sensitive receptors in the vicinity of the Warren Hall and UNEX sites.
- **Cumulative Construction-Related Traffic.** Due to the potential overlap between the proposed Project construction and other current and future construction projects on- and off-campus, the proposed Project has the potential to contribute to significant and unavoidable cumulative construction-related traffic impacts.

1.6 MITIGATION MONITORING AND REPORTING PROGRAM

CEQA requires that a public agency adopt a Mitigation Monitoring and Reporting Program (MMRP) for mitigation measures that have been incorporated into the project to reduce or avoid significant effects on the environment. The MMRP is designed to ensure compliance during project implementation, as required by Section 21081.6 of the *California Public Resources Code*. In conjunction with certification of the March 2009 LRDP Amendment Final EIR and approval of the March 2009 amendment to the UCLA 2002 LRDP, The Regents also adopted an MMRP. The MMRP ensures that campus programs, practices and procedures (PPs) and mitigation measures (MMs) that are the responsibility of the UC are implemented in a timely manner. As individual projects, such as the proposed Project, are designed and constructed, the projects include features necessary to implement relevant PPs and MMs. In accordance with The Regents' March 2009 approval of the LRDP Amendment and certification of the Final EIR, all relevant LRDP EIR PPs and MMs are incorporated into the proposed Project Description to reduce significant environmental impacts. Some PPs and MMs have been modified in this Draft SEIR, as identified in Table 1-1 (changes are shown in **bold-faced** and ~~strike-out~~ type).

The MMRP for the proposed Project, which obligates the University to implement MMs and continue to follow PPs, will be prepared and reviewed by The Regents in conjunction with consideration of the proposed Project and certification of the Final EIR. The identified PPs and MMs from the 2009 LRDP Amendment Final EIR and project-specific MMs will be implemented as a part of the Project and monitored through the MMRP approved for the Final EIR.

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

In this summary table, under the *Summary of Impacts with Applicable PPs and MMs* column, the level of significance is identified with the following abbreviations: **NI**: No Impact; **LS**: Less than Significant Impact; **PS**: Potentially Significant Impact

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Aesthetics (Section 4.1)		
PP 4.1-1(a)	The design process shall evaluate and incorporate, where appropriate, factors including, but not necessarily limited to, building mass and form, building proportion, roof profile, architectural detail and fenestration, the texture, color, and quality of building materials, focal views, pedestrian and vehicular circulation and access, and the landscape setting to ensure preservation and enhancement of the visual character and quality of the campus and the surrounding area. Landscaped open space (including plazas, courts, gardens, walkways, and recreational areas) shall be integrated with development to encourage use through placement and design.	
PP 4.1-2(b)	The architectural and landscape traditions that give the campus its unique character shall be respected and reinforced.	
PP 4.1-2(c)	Projects proposed under the 2002 LRDP shall include landscaping.	
PP 4.1-2(d)	The western, northern, and eastern edges of the main campus shall include a landscaped buffer to complement the residential uses of the surrounding community and to provide an attractive perimeter that effectively screens and enhances future development.	
MM 4.1-3(a)	Design for specific projects shall provide for the use of textured non-reflective exterior surfaces and non-reflective glass.	
MM 4.1-3(b)	All outdoor lighting shall be directed to the specific location intended for illumination (e.g., roads, walkways, or recreation fields) to limit stray light spillover onto adjacent residential areas. In addition, all lighting shall be shielded to minimize the production of glare and light spill onto adjacent uses.	
MM 4.1-3(c)	Ingress and egress from parking areas shall be designed and situated so the vehicle headlights are shielded from adjacent uses. If necessary, walls or other light barriers will be provided.	
Threshold 1.1: The proposed Project would have no impact related to substantial adverse effects on a scenic vista. (NI)	PP 4.1-1(a) and PP 4.1-2(a) through PP 4.1-2(d). No mitigation measures are required.	No Impact
Threshold 1.2: The proposed housing projects would not damage scenic resources within a State scenic highway. (NI)	No mitigation measures are required.	No Impact
Threshold 1.3: The proposed housing projects would not substantially degrade the existing visual character or quality of the sites and their surroundings. (LS)	PP 4.1-1(a) and PP 4.1-2(b) through PP 4.1-2(d). No mitigation measures are required.	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Threshold 1.4: The proposed Project would have a less than significant impact related to a new source of substantial light or glare affecting day or nighttime views in the area. (LS)	MM 4.1-3(a) through MM 4.1-3(c). No additional mitigation measures are required.	Less than Significant
Threshold 1.5: The proposed Project would have a less than significant impact related to causing shade and/or a shadow on currently unshaded, shadow-sensitive uses off campus. (LS)	No mitigation measures are required.	Less than Significant
Air Quality (Section 4.2)		
PP 4.2-2(a)	The campus shall continue to implement dust control measures consistent with SCAQMD Rule 403—Fugitive Dust during the construction phases of new project development. The following actions are currently recommended to implement Rule 403 and ~~have~~ **may** be~~en~~ quantified in the ~~URBEMIS~~ **CalEEMod** program ~~as being able to reduce dust generation between 5 and 84 percent depending on the measure or combination of measures used from the list below~~: • Minimize land disturbance to the extent feasible. • Apply water and/or approved nontoxic chemical soil stabilizers according to manufacturer's specification to all inactive construction areas (previously graded areas that have been inactive for 10 or more days). • Apply water three times daily to all active disturbed areas. • Replace ground cover in disturbed areas as quickly as possible. • Enclose, cover, water twice daily, or apply approved chemical soil binders to exposed piles with 5 percent or greater silt content. • Water active grading sites at least twice daily. • Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour over a 30-minute period. • All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer), in accordance with Section 23114 of the California Vehicle Code. • Sweep streets at the end of the day if visible soil material is carried over to adjacent roads. • Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip. • Apply water three times daily or chemical soil stabilizers according to manufacturers' specifications to all unpaved parking or staging areas or unpaved road surfaces. • Post and enforce traffic speed limits of 15 miles per hour or less on all unpaved roads.	

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
PP 4.2-2(b) The campus shall continue to require by contract specifications that construction equipment engines will be maintained in good condition and in proper tune per manufacturer's specification for the duration of construction. PP 4.2-2(c) The campus shall continue to require by contract specifications that construction operations rely on the campus' existing electricity infrastructure rather than electrical generators powered by internal combustion engines to the extent feasible. PP 4.2-2(d) The campus shall purchase and apply **ultra-low VOC** architectural coatings **with reactivity-adjusted VOC content that meets or exceeds the requirements of** ~~accordance with~~ SCAQMD Rule 1113, thereby ensuring the limitation of VOCs during construction. MM 4.2-2(a) The campus shall require by contract specifications that construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five minutes. MM 4.2-2(b) The campus shall encourage contractors to utilize alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, and low-NOx fuel) to the extent that the equipment is reasonably commercially available and cost effective. MM 4.2-2(c) The campus shall require by contract specifications that construction-related equipment used on site and for on-road export of soil meet USEPA Tier III certification requirements, as feasible.		
Threshold 2.1: The proposed Project does not involve any actions that would conflict with implementation of the SCAQMD 2016 AQMP. (NI)	No mitigation measures are required.	No Impact
Threshold 2.2: Estimated regional construction and operational emissions for the proposed housing sites would be less than the SCAQMD CEQA significance thresholds, and impacts would be less than significant. (LS) The interim combined emissions for operation of the housing projects at the Lot 15, Warren Hall, and UNEX sites, and grading activities at the Bradley site would exceed the SCAQMD NOx operational significance thresholds. (PS)	PP 4.2-2(a) through PP 4.2-2(d), and MM 4.2-2(a) through MM 4.2-2(c). <u>Bradley Site Only</u> MM AQ-1 The campus shall require by Contractor Specifications that diesel engine driven construction equipment greater than 50 horsepower used for the grading of the Bradley site be certified to be Tier 4 compliant for NOx emissions.	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Threshold 2.3: There could be times when construction emissions from the proposed housing projects could be added to the VOC or NOx emissions (O_3 precursors) of concurrent construction projects on and off campus when exceedance of the threshold would potentially occur. (PS) The operations of the proposed housing projects would contribute to a cumulatively considerable net increase of a pollutant for which the SoCAB is in nonattainment (O_3). (PS)	PPs 4.4-2(b) through 4.4-2(d), and MMs 4.4-2(a) through 4.4-2(c). There are no feasible mitigation measures to reduce these cumulative impacts.	Significant and Unavoidable for cumulative construction and operational air quality impacts.
Threshold 2.4: The proposed Project would have a less than significant impact related to exposure of sensitive receptors to substantial pollutant concentrations (criteria pollutants and toxic air contaminant emissions) during construction and operations. (LS)	PP 4.2-2(a) No mitigation measures are required.	Less than Significant
Threshold 2.5: The proposed Project would have less than significant impacts related to creation of odors affecting a substantial number of people during construction and operation. (LS)	No mitigation measures are required.	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Biological Resources (Section 4.3)		
PP 4.3-1(a)	Mature trees to be retained and protected in place during construction, shall be fenced at the drip-line, and maintained by the contractor in accordance with landscape specifications contained in the construction contract.	
PP 4.3-1(b)	Trees shall be examined by an arborist and trimmed, if appropriate, prior to the start of construction.	
PP 4.3-1(c)	Construction contract specifications shall include the provision for temporary irrigation/watering and feeding of these trees during construction, as recommended by the designated arborist.	
PP 4.3-1(d)	Construction contract specifications shall require that no building material, parked equipment, or vehicles shall be stored within the fence line of any tree.	
PP 4.3-1(e)	Examination of these trees by an arborist shall be performed monthly during construction to ensure that they are being adequately maintained.	
MM 4.3-1(a)	Prior to the onset of construction activities that occur between March and mid-August (February 1 through June 30 for raptors), surveys for nesting special status avian species and raptors shall be conducted on the affected portion of the campus following USFWS and/or CDFW guidelines. If no active avian nests are identified on or within 250 feet of the construction site, no further mitigation is necessary.	
MM 4.3-1(b)	If active nests for avian species of concern or raptor nests are found within the construction footprint or within a 250-foot buffer zone around the construction site, exterior construction activities shall be delayed within the construction footprint and buffer zone until the young have fledged or appropriate mitigation measures responding to the specific situation have been developed and implemented in consultation with CDFW.	
MM 4.3-1(c)	In conjunction with CEQA documentation required for each project proposal under the 2002 LRDP, as amended, that would result in the removal of one or more mature trees, the project will include a tree replacement plan with a 1:1 tree replacement ratio at the development site where feasible and/or elsewhere within the campus boundaries where feasible. If it is not feasible to plant replacement trees at a 1:1 ratio within the campus boundaries, the tree replacement plan will include the planting of native shrubs in ecologically appropriate areas within the campus boundaries that would provide nesting, foraging or roosting habitat for birds so that the replacement number of trees and shrubs will result in a 1:1 replacement ratio.	
MM 4.3-4	UCLA shall replace protected trees removed for construction of projects under the 2002 LRDP, as amended, with protected trees of the same species at a 2:1 ratio as presented in the City of Los Angeles Protected Tree Ordinance (Ordinance Number 177404). Protected trees are defined as coast live oak, valley oak, western sycamore, Southern California black walnut, and California bay laurel.	
Threshold 3.1: There would be no direct or indirect impact on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. There would be a less than significant impact on potential nesting birds and raptors. (LS)	MM 4.3-1(a) through MM 4.3-1(c). No additional mitigation measures are required.	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Threshold 3.2: There would be no impact to riparian habitat or other sensitive natural communities. (NI)	No mitigation measures are required.	No Impact
Threshold 3.3: There would be no impact to federally protected wetlands. (NI)	No mitigation measures are required.	No Impact
Threshold 3.4: The proposed Project would have a less than significant impact related to conflict with any applicable policies protecting biological resources. (LS)	PP 4.3-1(a) through PP 4.3-1(e), MM 4.1-3(c), and MM 4.3-4. No additional mitigation measures are required.	Less than Significant
Threshold 3.5: There would no impact on the movement of any native resident or migratory fish or wildlife species; established native resident or migratory wildlife corridors; or the use of native wildlife nursery sites. (NI)	No mitigation measures are required.	No Impact
Threshold 3.6: There would be no conflict with the provisions of an adopted HCP, NCCP, or other applicable HCP. (NI)	No mitigation measures are required.	No Impact
Cultural and Tribal Resources (Section 4.4)		
PP 4.4-1(a)	Structures outside the campus Historic Core that appear to have historic significance, or are over 45 years old, that may be directly or indirectly impacted by a proposed development project shall be reviewed by the campus and a qualified architectural historian or historic architect for eligibility for listing on the California Register of Historical Resources. If a structure is identified as eligible for listing in the California Register of Historical Resources, and it is determined that the project could have a significant adverse impact on the structure, the campus and a qualified historic architect shall consider design modifications, mitigation measures and/or alternatives that could minimize, avoid or substantially reduce the impacts, and consider whether and to what extent the project could comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Weeks and Grimmer 1995).	
PP 4.4-5	In the event of the discovery of a burial, human bone, or suspected human bone, all excavation or grading in the vicinity of the find shall halt immediately, the area of the find shall be protected, and the University immediately shall notify the Los Angeles County Coroner of the find and comply with the provisions of Public Resources Code Section 5097 with respect to Native American involvement, burial treatment, and re-burial, if necessary.	
MM 4.4-2(a)	Prior to site preparation or grading activities, construction personnel shall be informed of the potential for encountering unique archaeological resources and taught how to identify these resources if encountered. This shall include the provision of written materials to familiarize personnel	

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
	with the range of resources that might be expected, the type of activities that may result in impacts, and the legal framework of cultural resources protection. All construction personnel shall be instructed to stop work in the vicinity of a potential discovery until a qualified, non-University archaeologist assesses the significance of the find and implements appropriate measures to protect or scientifically remove the find. Construction personnel shall also be informed that unauthorized collection of archaeological resources is prohibited.	
MM 4.4-2(b)	Should archaeological resources be found during ground-disturbing activities for any project, a qualified Archaeologist shall first determine whether an archaeological resource uncovered during construction is a "unique archaeological resource" pursuant to Section 21083.2(g) of the Public Resources Code or a "historical resource" pursuant to Section 15064.5(a) of the CEQA Guidelines. If the archaeological resource is determined to be a "unique archaeological resource" or a "historical resource," the Archaeologist shall formulate a mitigation plan in consultation with the campus that satisfies the requirements of Section 21083.2 and 15064.5. If the Archaeologist determines that the archaeological resource is not a "unique archaeological resource" or "historical resource," s/he may record the site and submit the recordation form to the California Historic Resources Information System at the South Central Coastal Information Center. The Archaeologist shall prepare a report of the results of any study prepared as part of a mitigation plan, following accepted professional practice. Copies of the report shall be submitted to the University and to the California Historic Resources Information System at the South Central Coastal Information Center.	
MM 4.4-2(c)	Prior to initiation of construction activities for projects that require disturbance of native sediments/soils (as identified through site-specific geotechnical analysis), the campus shall retain a qualified non-University Archaeologist to observe grading activities and recover, catalogue, analyze, and report archaeological resources as necessary. The qualified Archaeologist shall submit to the Capital Programs University Representative, a written plan with procedures for archaeological resource monitoring. This plan shall include procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the resources as appropriate. ***This plan shall also identify procedures for notification of the appropriate Native American Tribe if potential Native American artifacts are encountered. The Native American Monitor shall assist in the analysis of any Native American artifacts for identification as everyday life and/or religious or sacred items, cultural affiliation, temporal placement and function, as much as possible. The significance of Native American resources shall be evaluated in accordance with the provisions of CEQA and shall consider the religious beliefs, customs, and practices of the affected tribes. All items found in association with Native American human remains shall be considered grave goods or sacred in origin and subject to special handling.***	
MM 4.4-3(a)	Prior to site preparation or grading activities, construction personnel shall be informed of the potential for encountering paleontological resources and taught how to identify these resources if encountered. This shall include the provision of written materials to familiarize personnel with the range of resources that might be expected; the type of activities that may result in impacts; and the legal framework of cultural resources protection. All construction personnel shall be instructed to stop work in the vicinity of a potential discovery until a qualified, non-University Paleontologist assesses the significance of the find and implements appropriate measures to protect or scientifically remove the find. Construction personnel shall also be informed that unauthorized collection of paleontological resources is prohibited.	
MM 4.4-3(b)	A qualified Paleontologist shall first determine whether a paleontological resource uncovered during construction meets the definition of a "unique archaeological resource" under Public Resources Code, Section 21083.2(g) or a "historical resource" under Section 15064.5 of the CEQA Guidelines. If the paleontological resource is determined to be a "unique archaeological resource" or a "historical resource", the Paleontologist shall formulate a Mitigation Plan in consultation with the campus that satisfies the requirements of Section 21083.2 of the CEQA Statutes.	

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
	If the Paleontologist determines that the paleontological resource is not a unique resource, s/he may record the site and submit the recordation form to the Natural History Museum of Los Angeles County. The Paleontologist shall prepare a report of the results of any study prepared as part of a mitigation plan, following accepted professional practice. Copies of the report shall be submitted to the University and to the Natural History Museum of Los Angeles County.	
Threshold 4.1: No substantial adverse change in the significance of a historical resource would occur at the Lot 15, UNEX, Bradley or Drake Stadium sites. Implementation of the proposed housing project at the Warren Hall site would require demolition of the Warren Hall building, which would cause a substantial adverse change in the significance of a historical resource, as defined in Section 15064.5 of the State CEQA Guidelines. Warren Hall is eligible for listing in the National Register of Historic Places (NRHP) and California Register of California Register of Historic Resources (CRHR) (PS)	PP 4.4-1(a) and PP 4.4-1(b). <u>Warren Hall Site Only</u> MM HIST-1 Prior to the demolition of Warren Hall at 900 Weyburn Place, the building shall be documented to the standards of the Historic American Building Survey (HABS) program. The documentation shall include the following: • A written description and narrative report following the most recent HABS Guidelines for Historical Reports, Outline Format. • Large format (4-inch by 5-inch or larger negative) photographs following the most recent HABS Photography Guidelines. Views shall include the setting; important site features; all exterior facades and wings, including the radiation facility and greenhouse; detailed views of significant exterior architectural features, such as the concrete screen, exterior window wall, and glazed connector with visible interior stair; and interior views of significant spaces and features like the "atrium" space in the entrance pavilion. • A site plan showing Warren Hall's location in relationship to the setting and surrounding streets. • A photo key using the site plan shall be included. • Duplicates of historic photographs and drawings, if available. A qualified professional who meets the requirements of the *Secretary of the Interior's Professional Qualifications Standards* for history, architectural history, or historic architecture, shall prepare the documentation. Upon completion, copies of the documentation materials shall be offered and sent to appropriate archives and repositories willing to accept the documentation, including the Southern California Information Center at California State University, Fullerton; UCLA Library, Special Collections; Los Angeles Public Library Central Library and/or local branch as appropriate; and local preservation organizations and historical societies that express interest. MM HIST-2 To commemorate Warren Hall's role in the history of nuclear medicine development, a publicly accessible interpretive program shall be developed with the assistance of	Significant and Unavoidable

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
	a qualified architectural historian or historic preservation professional who meets the Secretary of the Interior's Professional Qualifications Standards. The interpretive program shall reflect the history of the Laboratory for Nuclear Medicine and Radiation Biology, which may include its precursor, the UCLA Atomic Energy Project and its association with the Atomic Energy Commission, as well as the medical and scientific achievements of the laboratory once it was housed at Warren Hall. The program shall also include a discussion of Warren Hall's architectural design as well as architects Neptune & Thomas. Creative solutions regarding medium and format of the interpretive program are encouraged, but all interpretive materials shall be accessible to the general public and displayed in a setting that is appropriate within the context of Warren Hall as well as open and inviting in nature (e.g., an exhibit at UCLA Library, Special Collections, a video documentary, an online website, an on-site display at the replacement development). Interpretive media shall include both text and graphics, which may include historic photographs, maps, architectural drawings, or other imagery. The interpretative program shall be completed and available to the public prior to or upon completion of the proposed student project at the Warren Hall site.	
Thresholds 4.2: The proposed Project would have a less than significant impact related to the potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines. (LS)	MM 4.4-2(a) through MM 4.4-2(c). No additional mitigation measures are required.	Less than Significant
Thresholds 4.3: The proposed Project would have a less than significant impact related to the potential to cause a substantial adverse change in the significance of a tribal cultural resource. (LS)	MM 4.4-2(c). No additional mitigation measures are required.	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Thresholds 4.4: The proposed Project would have a less than significant related to the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (LS)	MM 4.4-3(a) and 4.4-3(b) No additional mitigation measures are required.	Less than Significant
Thresholds 4.5: The proposed Project has a less than significant potential to disturb any human remains, including those interred outside formal cemeteries. (LS)	PP 4.4-5. No mitigation measures are required.	Less than Significant
Geology and Soils (Section 4.5)		
PP 4.5-1(a)	During project-specific building design, a site-specific geotechnical study shall be conducted under the direct supervision of a California Registered Engineering Geologist or licensed Geotechnical Engineer to assess detailed seismic, geological, soil, and groundwater conditions at each construction site and develop recommendations to prevent or abate any identified hazards in accordance with the requirements of the **applicable** ~~2007~~ California Building Code **in effect at the time of construction**. Recommendations from the site-specific geotechnical study shall be included in the grading plans and/or building design specifications for each project. The study shall follow applicable recommendations of CGS Special Publication 117 and shall include, but not necessarily be limited to: • Determination of the locations of any suspected fault traces and anticipated ground acceleration at the building site; • Potential for displacement caused by seismically induced shaking, fault/ground surface rupture, liquefaction, differential soil settlement, expansive and compressible soils, landsliding, or other earth movements or soil constraints; • Evaluation of depth to groundwater.	
PP 4.5-1(c)	The campus shall continue to comply with the University Policy on Seismic Safety **effective May 19, 2017** ~~adopted on January 17, 1995~~ or with any subsequent revision to the policy that provides an equivalent or higher level of protection with respect to seismic hazards[a].	
PP 4.5-1(d)	Development projects under the LRDP Amendment shall continue to be subject to structural peer review; following this review, any site-specific geotechnical study recommendations, including any recommendations added as a result of the peer review, shall be incorporated in the project design, as appropriate.	
In addition, PP 4.7-1 and MM 4.7-1 presented in Section 4.8, Hydrology and Water Quality, of this Draft SEIR is also incorporated into the proposed Project.		
Threshold 5.1: The proposed Project would result in a less than significant impact related to surface rupture of a known earthquake fault. (LS)	No mitigation measures are required.	Less than Significant

[a] The UC Seismic Safety Policy of 1995 has been subsequently revised with the latest version effective May 19, 2017.

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Threshold 5.2: There would be no impact related to liquefaction and landslides. (NI) There would be a less than significant impact related to seismic ground shaking; however, MM GEO-1 is provided to ensure that recommendations from the existing Preliminary Geotechnical Investigations are included in the project designs for the Lot 15, Warren Hall, UNEX and Bradley sites (consistent with the requirements outlined in PP 4.5-1[a] and PP 4.5-1[d]). (LS)	PP 4.5-1(a), PP 4.5-1(c), and PP 4.5-1(d). <u>Lot 15, Warren Hall, UNEX and Bradley Sites Only</u> MM GEO-1 Prior to approval of final building designs for the Lot 15, Warren Hall, UNEX, and Bradley Student Housing Projects, a qualified Engineer shall review the final designs to verify that all geotechnical recommendations provided in the Preliminary and all subsequent site-specific Geotechnical Investigations for the project sites have been fully and appropriately incorporated. At a minimum, the recommendations of the following shall be incorporated: *Preliminary Geotechnical Investigation, Proposed Student Housing Development, UCLA – Lot 15, Los Angeles, California* (dated January 18, 2017 and prepared by Geocon West); *Preliminary Geotechnical Investigation, Proposed Student Housing Development, 900 Weyburn Place, Los Angeles, California* (dated December 23, 2016 and prepared by Geocon West); *Preliminary Geotechnical Investigation, Proposed Student Housing Development, 10995 Le Conte Avenue, Los Angeles, California* (dated December 29, 2016 and prepared by Geocon West); and *Preliminary Geotechnical Investigation, Proposed Student Housing Development, Northeast Corner of Gayley Avenue and Strathmore Drive, Los Angeles, California* (dated December 29, 2016 and prepared by Geocon West). The recommendations for the Lot 15, Warren Hall, UNEX, and Bradley sites would include, but not be limited to, the following geotechnical engineering topics: • Grading; • Shrinkage; • Foundation Design; • Deepened Foundation Design and Installation; • Foundation Settlement; • Miscellaneous Foundations; • Lateral Design; • Concrete Slabs-on-Grade; • Pavement Recommendations; • Retaining Wall Design and Drainage; • Dynamic (Seismic) Lateral Forces; • Elevator Pit Design; • Elevator Piston; • Temporary Excavations; • Shoring – Soldier Pile Design and Installation; • Tie-Back Anchors and Anchor Installation and Testing;	Liquefaction and Landslides: No Impact Ground Shaking: Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
	• Internal Bracing; • Storm Water Infiltration; • Surface Drainage; and/or • Plan Review.	
Threshold 5.3: There would be a less than significant impact to substantial soil erosion or loss of topsoil. (LS)	PP 4.7-1 and MM 4.7-1. No additional mitigation measures are required.	Less than Significant
Threshold 5.4: There would be a less than significant impact related to unstable soil. (LS)	PP 4.5-1(a), PP 4.5-1(d), and MM GEO-1.	Less than Significant
Threshold 5.5: There would be a less than significant impact related to expansive soil. (LS)	No mitigation measures are required.	Less than Significant
Threshold 5.6: There would be no impact related to the presence of soils incapable of adequately supporting septic tanks or alternative wastewater disposal systems. (NI)	No mitigation measures are required.	No Impact
Greenhouse Gas Emissions (Section 4.6)		
PP 4.15-1 The campus shall continue to implement provisions of the UC Policy on Sustainability Practices including, but not limited to: Green Building Design; Clean Energy Standards; Climate Protection Practices; Sustainable Transportation Practices; Sustainable Operations; Recycling and Waste Management; and Environmentally Preferable Purchasing Practices; and provisions of the applicable UCLA Climate Action Plan. In addition, the following measures, which are included under the Utilities and Service Systems analysis (Section 4.14 of this Draft SEIR), have been incorporated into the proposed Project and require that the campus continue to implement energy and water conservation measures and reduce solid waste generation which would, in turn, reduce associated GHG emissions: PP 4.14-2(a), low-flow plumbing fixtures; PP 4.14-2(b), water-efficient irrigation; PP 4.14-2(c), prompt water pipe leak repairs; PP 4.14-2(d), minimize exterior water use; PP 4.14-2(g), water conservation education; PP 4.14-3, waste reduction and recycling; and PP 4.14-9, energy conservation.		
Threshold 6.1: The proposed Project would have a less than significant impact on the environment from generation of greenhouse gas emissions, either directly or indirectly. (LS)	No mitigation measures are required.	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Threshold 6.2: The proposed Project would have less than significant potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. (LS)	PP 4.13-1(d), PP 4.14-2(a) through PP 4.14-2(d), PP 4.14-3, PP 4.14-9, and PP 4.15-1. No mitigation measures are required.	Less than Significant
Hazards and Hazardous Materials (Section 4.7)		
PP 4.6-1 The campus shall continue to implement the same (or equivalent) health and safety plans, programs, practices, and procedures related to the use, storage, disposal, or transportation of hazardous materials during the LRDP Amendment planning horizon, including, but not necessarily limited to, the Business Plan, Hazardous Materials Management Program, Hazard Communication Program, Injury and Illness Prevention Program, Chemical Exposure Monitoring Program, Asbestos Management Program, Respiratory Protection Program, EH&S procedures for decommissioning and demolishing buildings that may contain hazardous materials, and the Broadscope Radioactive Materials License. These programs may be subject to modification as more stringent standards are developed or if the programs become obsolete through replacement by other programs that incorporate similar health and safety protection measures. PP 4.6-4 While not expected to occur on-campus, if contaminated soil and/or groundwater is encountered during the removal of on-site debris or during excavation and/or grading activities, the construction contractor(s) shall stop work and immediately inform the EH&S. An on-site assessment shall be conducted to determine if the discovered materials pose a significant risk to the public or construction workers. If the materials are determined to pose such a risk, a remediation plan shall be prepared and submitted to the EH&S to comply with all federal and State regulations necessary to clean and/or remove the contaminated soil and/or groundwater. Soil remediation methods could include, but are not necessarily limited to, excavation and on-site treatment, excavation and off-site treatment or disposal, and/or treatment without excavation. Remediation alternatives for cleanup of contaminated groundwater could include, but are not necessarily limited to, on-site treatment, extraction and off-site treatment, and/or disposal. The construction schedule shall be modified or delayed to ensure that construction will not inhibit remediation activities and will not expose the public or construction workers to significant risks associated with hazardous conditions. In addition, PPs 4.13-5 and 4.13-8, which address emergency access, are also incorporated into the proposed Project and are assumed in the analysis of potential hazards.		
Threshold 7.1: The proposed housing projects would have a less than significant impact related to the routine transport, use, and disposal of hazardous materials. (LS)	PP 4.6-1.	Less than Significant
Threshold 7.2: The proposed housing projects at the Warren Hall, UNEX, Bradley, and Drake Stadium sites would have a less than significant impact related to the potential to create a significant hazard	PP 4.6-1 and PP 4.6-4. <u>Lot 15 Site Only</u> MM HAZ-1 Prior to initiation of demolition activities at building M on the Lot 15 site, samples from the area where fluids have leaked from an existing transformer onto concrete shall be collected and submitted for laboratory analysis to determine whether any hazardous	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. A leaking fluid was observed on the concrete floor at the Lot 15, which could expose individuals to a potential hazardous substance during construction. (PS)	substance is present in the media sampled, which would include the fluid (surface wipe sample), concrete floor (bulk sample or core), and/or soil (bulk sample) underlying the concrete. If a hazardous substance is are detected, a Remediation Plan shall be prepared and submitted to the Office of Environment, Health, and Safety (EH&S) to comply with all federal and State regulations necessary to clean and/or remove the affected media. The transformer, any concrete that has come into contact with the fluid (as evidenced by staining), and, if applicable, soil impacted by the fluid shall be removed/excavated and disposed of in an appropriate facility, possibly as hazardous waste depending on the concentrations of the substance present in the impacted media. Evidence that there are no concentrations of the identified substance(s) above the U.S. Environmental Protection Agency's Regional Screening Levels (RSLs) for residential use applicable to the substance(s) shall be provided to EH&S before demolition of building M begins.	
Threshold 7.3: The proposed Project would have a less than significant impact related to handling hazardous materials within a ¼ mile of a school. (LS)	PP 4.6-1 and MM HAZ-1.	Less than Significant
Threshold 7.4: There are no identified hazardous materials sites located in the project area that could create a significant hazard to the public or the environment. (LS)	No mitigation measures are required.	Less than Significant
Thresholds 7.5 and 7.6: There would be no impacts related to public use airports or to RRUCLAMC helistop operations. (NI)	No mitigation measures are required.	No Impact
Threshold 7.7: The proposed Project would have a less than significant impact related to implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan. (LS)	PP 4.13-5 and PP 4.13-8. No mitigation measures are required.	Less than Significant
Threshold 7.8: The proposed Project would have no impact related to wildland fires. (LS)	No mitigation measures are required.	No Impact

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Hydrology and Water Quality (Section 4.8)		
PP 4.7-1	Construction and operation of projects on campus shall comply with requirements and water quality standards set forth within current NPDES Permit regulations (Phase I and Phase II) at the time of project approval. Pursuant to Phase I permit requirements, UCLA shall develop a Storm Water Pollution Prevention Plan (SWPPP) that incorporates Best Management Practices (BMPs) for reducing or eliminating construction-related and post-construction pollutants in site runoff**, including but not limited to the BMPs listed in MM 4.7-1**.	
PP 4.7-5	Site-specific hydrologic evaluation shall be conducted for each proposed development project based on the project-specific grading plan and site design of each individual project. This evaluation shall include, but not be limited to: (1) an assessment of runoff quality, volume and flow rate from the proposed project site; (2) identification of project specific BMPs (structural and non-structural) to reduce the runoff rate and volume to appropriate levels**, including but not limited to the BMPs listed in MM 4.7-1**; and (3) identification of the need for new or upgraded storm drain infrastructure (on and off campus) to serve the project. Project design shall include measures to upgrade and expand campus storm drain capacity where necessary, as identified through the project-specific hydrologic evaluation. Design of future projects shall include measures to reduce runoff, including, but not limited to, the provision of permeable landscaped areas adjacent to structures to absorb runoff and the use of pervious or semi-pervious paving materials.	
MM 4.7-1	Best Management Practices (BMPs) shall be implemented for individual development projects, to the extent required by State law, to ensure compliance is maintained with all applicable NPDES requirements at the time of project construction. UCLA shall utilize BMPs as appropriate and feasible to comply with and/or exceed the current requirements under the NPDES program. BMPs that may be implemented include, but are not limited to, the following: Non-Structural/Structural • Landscape Maintenance • Catch Basin Stenciling and Clean-out • Efficient Irrigation Practices • Litter Control • Fertilizer Management • Public Education • Efficient Irrigation • Permanent Vegetative Controls • Runoff – Minimizing Landscape Design Treatment Control BMPs (to minimize storm water pollutants of concern for Ballona Creek – Sediment, Bacteria/Viruses, Toxicity, Trash, and Metals): • Vegetated Swale(s) – An open, shallow channel with vegetation covering side slopes and the bottom. • Bioretention – A basin that functions as a soil and plant-based filtration device that removes pollutants through a variety of physical, biological, and chemical treatment processes. • Turf Block – A grass area that has a structural component which allows it to be used in drive aisles and parking lots. • Drain Inserts – A manufactured filter placed in a drop inlet to remove sediment and debris.	

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Thresholds 8.1 and 8.2: The proposed Project would implement required best management practices (BMPs) during construction and operation to ensure that discharges of post-construction pollutants remain less than significant. The proposed Project would adhere to applicable water quality regulation and would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality. (LS)	PP 4.7-1, PP 4.7-5, and MM 4.7-1. No additional mitigation measures are required.	Less than Significant
Thresholds 8.3: The proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Additionally, the decrease in pervious surfaces as a result of the proposed housing projects would not result in a notable change in the associated recharge capability of the campus as a whole. (LS)	No mitigation measures are required.	Less than Significant
Thresholds 8.4 and 8.5: The change in drainage patterns at the proposed housing sites would not contribute to erosion, siltation, or flooding on or off site because the overall drainage patterns would remain similar at each project site and because the rate and volume of storm water runoff discharging from each project site would remain similar or	PP 4.7-5 and MM 4.7-1. No additional mitigation measures are required.	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
would be less than the existing condition. (LS)		
Thresholds 8.6 and 8.7: Implementation of the proposed Project would not create or contribute additional sources of polluted runoff, nor would it require or result in the construction of new or expanded storm water drainage facilities. (LS)	PP 4.7-1, PP 4.7-5, and MM 4.7-1. No additional mitigation measures are required.	Less than Significant
Thresholds 8.8, 8.9, 8.10, and 8.11: Implementation of the proposed housing projects would not place housing or structures within a 100-year flood hazard area, and the proposed structures would not be susceptible to tsunami. There are no slopes on or near the campus that would constitute a risk of mudflows. The proposed project would not have impacts related to inundation from failure of a levee or dam, or from seiche. (NI)	No mitigation measures are required.	No Impact
Land Use and Planning (Section 4.9)		
PP 4.8-1(a)	Development of the south edge of the main campus shall be designed to enhance the campus interface with Westwood Village. (Applicable to UNEX site only)	
PP 4.8-1(b)	The existing recreational fields in the Central zone of campus shall be maintained and will continue to provide a buffer between campus development and the residential uses north of Sunset Boulevard. (Applicable to Drake site only)	
PP 4.8-1(c)	Infill development of the campus shall be continued, which reduces vehicle miles traveled and energy consumption.	
PP 4.8-1(d)	New building projects shall be sited to ensure compatibility with existing uses and the height and massing of adjacent facilities.	
PP 4.8-1(e)	Facilities shall be sited and designed to enhance spatial development of the campus while maximizing use of limited land resources.	
Threshold 9.1: The proposed housing projects would not physically divide an established community. (NI)	No mitigation measures are required.	No Impact

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Threshold 9.2: Implementation of the proposed Project would result in a less than significant impact related to conflicts with applicable UCLA and regional land use plans, policies, or regulations of an agency with jurisdiction over the proposed Project adopted for the purpose of avoiding or mitigating an environmental effect. (LS)	PP 4.8-1(a) through PP 4.8-1(e). No additional mitigation measures are required.	Less than Significant
Threshold 9.3: The proposed Project would result in no impact to any applicable habitat conservation plan or natural community conservation plan. (NI)	No mitigation measures are required.	No Impact
Threshold 9.4: The proposed Project would have a less than significant impact related to land use incompatibilities between campus development and adjacent community land uses. (LS)	PP 4.1-1(a), PP 4.1-2(d), and PP 4.8-1(a), PP 4.8-1(b), PP 4.8-1(D), and PP 4.8-1(e). No mitigation measures are required.	Less than Significant
Noise and Vibration (Section 4.10)		
PP 4.9-1	The campus shall continue to evaluate ambient noise conditions when placing new student housing near regular sources of noise such as roadways, the on-campus helistop and stationary equipment, and design the new buildings to ensure that interior noise levels would be less than 45 dBA CNEL.	
PP 4.9-6(a)	The campus shall continue to shield all new stationary sources of noise that would be located in close proximity to noise-sensitive buildings and uses.	
PP 4.9-6(b)	The campus shall continue to provide a landscaped buffer along the western, northern, and eastern edges of the main campus in order to maximize the distance between the roadways and new buildings and provide an acoustically soft environment. At a minimum, this environment can be provided by planting grass and other low landscaping.	
PP 4.9-7(a)	To the extent feasible, construction activities shall be limited to 7:00 AM to 9:00 PM Monday through Friday, 8:00 AM to 6:00 PM on Saturday, and no construction on Sunday and national holidays, as appropriate, in order to minimize disruption to area residences surrounding the campus and to on-campus uses that are sensitive to noise.	
PP 4.9-7(b)	The campus shall continue to require by contract specifications that construction equipment be required to be muffled or otherwise shielded. Contracts shall specify that engine-driven equipment be fitted with appropriate noise mufflers.	

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
PP 4.9-7(c)	The campus shall continue to require that stationary construction equipment material and vehicle staging be placed to direct noise away from sensitive receptors.	
PP 4.9-7(d)	The campus shall continue to conduct regular meetings with on-campus constituents to provide advance notice of construction activities in order to coordinate these activities with the academic calendar, scheduled events, and other situations, as needed.	
PP 4.9-8	The campus shall continue to conduct meetings, as needed, with off-campus constituents that are affected by campus construction to provide advance notice of construction activities and ensure that the mutual needs of the particular construction project and of those impacted by construction noise are met, to the extent feasible.	
MM 4.9-2	The campus shall require by contract specifications that, to the extent feasible, large bulldozers, large heavy trucks, and other similar equipment not be used within 43 feet of occupied residence halls, within 34 feet of non-residential/non-sensitive buildings, and within 135 feet of buildings that house sensitive instrumentation or similar vibration-sensitive equipment or activities. The work shall be done with medium-sized equipment or smaller within these prescribed distances to the extent practicable.	
MM 4.9-7	A solid noise barrier that would break the line of sight between the construction site and a sensitive use area would reduce construction noise by at least 5 dBA. Therefore, when detailed construction plans are complete, the campus shall review the locations of sensitive receptor areas in relation to the construction site. If it is determined that a 12-foot-high barrier would break the line of sight between an 11-foot-high noise source and adjacent sensitive use areas, a temporary barrier shall be erected to the extent practicable. The barrier shall be solid from the ground to the top, with no openings, and shall have a weight of at least 3 pounds per square foot, such as plywood that is ½-inch thick.	
Threshold 10.1: The proposed Project would have a less than significant impact related to exposure of persons to or generation of noise levels in excess of California Building Code interior noise standards, which are the standards applicable to the proposed Project. (LS)	PP 4.9-1. No mitigation measures are required.	Less than Significant
Threshold 10.2: The proposed Project would have a less than significant impact related to exposure of persons to generation of excessive groundborne vibration levels from on-site and off-site activities during construction and operation. (LS)	PP 4.9-7(a), PP 4.9-7(d), and MM 4.9-2. No additional mitigation measures are required.	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Threshold 10.3: There would be a less than significant impact related to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the Project. (LS)	PP 4.9-6(a) and PP 4.9-6(b). No mitigation measures are required.	Less than Significant
Threshold 10.4: Construction of the proposed housing projects would result in a significant and unavoidable impact related to a substantial temporary or periodic increases in ambient noise levels at on- and off-campus uses above levels existing without the Project. (PS) **Cumulative Construction Noise:** Concurrent construction activities associated with the proposed housing projects at the Warren Hall and UNEX sites and the previously approved Margan Apartments Redevelopment project, which is located between the two sites, could result in cumulative construction-related noise impacts to sensitive receptors in the vicinity of the Warren Hall and UNEX sites. (PS)	PP 4.9-7(a) through PP 4.9-7(d), PP 4.9-8, and MM 4.9-7. MM NSE-1 The campus shall require by Contractor Specifications that, to the extent feasible, construction equipment that would be anticipated to have noise levels exceeding 75 A-weighted decibels (dBA) at 50 feet with standard mufflers be equipped with mufflers with enhanced noise attenuation, commonly identified as “critical grade” or “hospital grade” mufflers.	Project and Cumulative: Significant and Unavoidable
Threshold 10.5: The UCLA campus is neither within an airport land use plan nor within two miles of a public airport or public use airport and the proposed housing projects would not expose people to excessive noise levels from these uses. (NI)	No mitigation measures are required.	No Impact

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Threshold 10.6: There would be a less than significant impact related to exposure of persons to excessive noise levels associated with the RRUCLAMC. (LS)	No mitigation measures are required.	Less than Significant
Population and Housing (Section 4.11)		
Threshold 11.1: The proposed Project would have a less than significant impact related to inducement of substantial population growth in an area either directly or indirectly. (LS)	No mitigation measures are required.	Less than Significant
Thresholds 11.2 and 11.3: The proposed Project would have no impacts related to displacement of substantial numbers of existing housing that would necessitate the construction of replacement housing, and displacement of substantial numbers of people that would necessitate the construction of replacement housing. (NI)	No mitigation measures are required.	No Impact
Public Services and Recreation (Section 4.12)		
PP 4.11-1	Fire alarm connections to the University Police Command Center shall continue to be provided in all new and renovated buildings to provide immediate location information to the Los Angeles Fire Department to reduce response times in emergency situations.	
PP 4.11-2(a)	Police staffing levels and equipment needs shall continue to be assessed on an ongoing basis as individual development projects are proposed and on an annual basis during the campus budgeting process to ensure that the appropriate service levels will be maintained to protect an increased campus population and an increased level of development.	
PP 4.11-2(b)	Annual meetings shall continue to be attended by the Director of UCLA Housing and the UCPD to evaluate the adequacy of police protection service for University owned housing, assess institutional priorities and budgetary requirements, and identify and implement appropriate actions to ensure the continued adequacy of police protection services for resident students.	
PP 4.12-1(a)	The campus shall continue to provide, operate, and maintain recreational facilities for students, faculty, and staff on campus.	
PP 4.12-1(b)	The campus shall continue to integrate landscaped open space (including plazas, courts, gardens, walkways, and recreational areas) with development to encourage use through placement and design.	

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Threshold 12.1: The proposed Project would not require new or altered fire protection services and no physical impact would occur. (LS)	PP 4.11-1. No mitigation measures are required.	Less than Significant
Threshold 12.2: The proposed Project would not require new or altered police protection services and no physical impact would occur. (LS)	PP 4.11-1, PP 4.11-2(a), and PP 4.11-2(b). No mitigation measures are required.	Less than Significant
Threshold 12.3: The proposed Project would not require new or altered school facilities and no physical impact would occur. (LS)	No mitigation measures are required.	Less than Significant
Thresholds 12.4 and 12.5: The proposed Project would not require new or altered libraries or other public services and no physical impacts would result. (NI)	No mitigation measures are required.	No Impact
Thresholds 12.6 and 12.7: The proposed Project would not require new or altered park and recreational facilities and would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. (LS)	PP 4.12-1(a) and PP 4.12-1(b). No mitigation measures are required.	Less than Significant
Threshold 12.8: The proposed Project would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment, and there would be a less than significant impact. (LS)	No mitigation measures are required.	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Transportation/Traffic (Section 4.13)		
PP 4.13-1(a)	The campus shall continue to maintain the 1990 LRDP vehicle trip cap of 139,500 average daily trips.	
PP 4.13-1(b)	The campus shall continue to maintain the 1990 LRDP parking cap of 25,169 spaces.	
PP 4.13-1(c)	The campus shall continue to provide on-campus housing to continue the evolution of UCLA from a commuter to a residential campus.	
PP 4.13-1(d)	The campus shall continue to implement a TDM program that meets or exceeds all trip reduction and AVR requirements of the SCAQMD. The TDM program may be subject to modification as new technologies are developed or alternate program elements are found to be more effective.	
PP 4.13-2	UCLA Capital Programs will assess construction schedules of major projects to determine the potential for overlapping construction activities to result in periods of heavy construction vehicle traffic on individual roadway segments, and adjust construction schedules, work hours, or access routes to the extent feasible to reduce construction-related traffic congestion.	
PP 4.13-5	To the extent feasible, the campus shall maintain at least one unobstructed lane in both directions on campus roadways. At any time only a single lane is available, the campus shall provide a temporary traffic signal, signal carriers (i.e., flagpersons), or other appropriate traffic controls to allow travel in both directions. If construction activities require the complete closure of a roadway segment, the campus shall provide appropriate signage indicating alternative routes.	
PP 4.13-6	For any construction-related closure of pedestrian routes, the campus shall provide appropriate signage indicating alternative route and provide curb cuts and street crossings to assure alternate routes are accessible.	
PP 4.13-8	To ensure adequate access for emergency vehicles when construction projects would result in temporary lane or roadway closures, UCLA shall consult with the UCPD, EH&S, and the LAFD to disclose temporary lane or roadway closures and alternative travel routes.	
MM 4.13-11	To the extent that construction worker parking demand exceeds historical levels or available supply, off-site construction worker parking shall be provided with shuttle service to the remote parking location.	
Threshold 13.1 (Construction): The generation of heavy truck trips during the AM peak hour could result in traffic delays along construction routes for the Lot 15, Warren Hall, UNEX and Bradley sites, and could potentially impact operations at currently deficient intersections. (PS)	PP 4.13-2 MM TRF -1 During demolition and grading activities for the Lot 15, Warren Hall, UNEX and Bradley sites, UCLA shall restrict the total combined number of heavy trucks trips to no more than 24 passenger car equivalents per hour between 7:00 AM and 9:00 AM. This requirement shall be included on the contractor specifications and verified by Capital Programs.	Project: Less than Significant
Cumulative Construction Traffic: While the proposed Project's impact is less than significant after mitigation, the Project's contribution to potential significant cumulative construction-related traffic impacts is considered a significant cumulative impact (PS)	There is no feasible mitigation for cumulative construction-related traffic impacts.	Cumulative: Significant and Unavoidable

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Threshold 13.1 (Operation): Operation of the proposed Project would have a less than significant impact related to conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. (LS)	PP 4.13-1(a), PP 4.13-1(b), and PP 4.13-1(c). No mitigation measures are required.	Less than Significant
Threshold 13.2: The proposed Project would not conflict with an applicable CMP including, but not limited to, LOS standards and travel demand measures or other standards established by the County congestion management agency for designated roads or highways. (NI)	No mitigation measures are required.	No Impact
Threshold 13.3: The proposed Project would have no impact related to a change in air traffic patterns. (NI)	No mitigation measures are required.	No Impact
Threshold 13.4: Operation of the proposed Project would result in a less than significant impact related to vehicular and pedestrian/bicyclist hazards during construction and operation. (LS)	PP 4.13-5 and PP 4.13-6. No mitigation measures are required.	Less than Significant
Threshold 13.5: The proposed Project would have a less than significant impact related to emergency access. (LS)	PP 4.13-8. No mitigation measures are required.	Less than Significant
Threshold 13.6: The proposed Project would support and would not conflict with adopted PPs supporting alternative transportation. Potential impacts would be less than significant. (LS)	PP 4.13-1(d). No mitigation measures are required.	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
Utilities and Service Systems (Section 4.14)		
PP 4.14-2(a) New facilities and renovations (except for patient care facilities in the Medical Center) shall be equipped with low-flow showers, toilets, and urinals. PP 4.14-2(b) Measures to reduce landscaping irrigation needs shall be used, such as automatic timing systems to apply irrigation water during times of the day when evaporation rates are low, installing drip irrigation systems, using mulch for landscaping, subscribing to the California Irrigation Management Information System Network for current information on weather and evaporation rates, and incorporating drought-resistant plants as appropriate. PP 4.14-2(c) The campus shall promptly detect and repair leaks in water and irrigation pipes. PP 4.14-2(d) The campus shall minimize the use of water to clean sidewalks, walkways, driveways and parking areas. PP 4.14-2(e) The campus shall avoid serving water at UCLA food service facilities except upon request. PP 4.14-2(g) The campus shall educate the campus community on the importance of water conservation measures. PP 4.14-3 The campus shall continue to implement a solid waste reduction and recycling program designed to limit the total quantity of campus solid waste that is disposed of in landfills during the LRDP plan horizon. PP 4.14-5 As part of the design process for proposed projects, an evaluation of the on-campus sewer conveyance capacity shall be undertaken, and improvements provided if necessary in order to ensure that connections are adequate and capacity is available to accommodate estimated flows. PP 4.14-9 The campus shall continue to implement energy conservation measures (such as energy-efficient lighting and microprocessor-controlled HVAC equipment) to reduce the demand for electricity and natural gas. The energy conservation measures may be subject to modification as new technologies are developed or if current technologies become obsolete through replacement. In addition, PP 4.15-1, discussed under the greenhouse gas (GHG) emissions analysis (Section 4.6 of this Draft SEIR), which requires implementation of the provisions of the UC Sustainable Practices Policy, is also incorporated in the proposed Project.		
Threshold 14.1: The proposed housing projects would not require construction of new water facilities beyond the installation of new lines to connect the proposed buildings to existing infrastructure. The physical limits of utility construction are within the impact area addressed throughout this Draft SEIR. (LS)	PP 4.14-2(a) through PP 4.14-2(e) and PP 4.14-2(g). No mitigation measures are required.	Less than Significant
Threshold 14.2, 14.3, and 14.4: The proposed Project would have no significant impact related to exceeding wastewater treatment requirements of the applicable RWQCB, and a less than significant	PP 4.14-2(a) through PP 4.14-2(e), PP 4.11-2(g), and PP 4.14-5. No mitigation measures are required.	Less than Significant

TABLE 1-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS, AND APPLICABLE PROGRAMS, PRACTICES AND PROCEDURES (PPS) AND MITIGATION MEASURES (MMS) PROPOSED LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

Summary of Impacts with Applicable PPs and MMs	Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from the March 2009 LRDP Amendment Final EIR Included in the Proposed Project	Level of Significance After Mitigation
impact related to the capacity of existing wastewater treatment systems. The proposed Project would require the installation of new wastewater infrastructure; new sewer lines would be installed at each site to connect to existing sewer lines and sewer line upgrades are required. The physical limits of utility construction are within the impact area addressed throughout this Draft SEIR (LS)		
Threshold 14.5: The proposed Project would have a less than significant impact related to water supplies. (LS)	PP 4.14-2(a) through PP 4.14-2(d) and PP 4.11-2(g). No mitigation measures are required.	Less than Significant
Threshold 14.6: The proposed Project would have a less than significant impact related to landfill capacity and solid waste disposal during construction and operation. (LS)	PP 4.14-3 and PP 4.15-1 No mitigation measures are required.	Less than Significant
Threshold 14.7: The proposed Project would have no impact associated with compliance with applicable federal, State, and local statutes and regulations related to solid waste. (NI)	PP 4.14-3 and PP 4.15-1 No mitigation measures are required.	No Impact
Threshold 14.8: The proposed Project would require the installation of new electricity and natural gas infrastructure to connect to existing infrastructure. The physical limits of utility construction are within the impact area addressed throughout this Draft SEIR. (LS)	PP 4.14-9. No mitigation measures are required.	Less than Significant

1.7 SUPPORTING INFORMATION SOURCES

University of California, Los Angeles (UCLA). 2017 (March). *Student Housing Master Plan 2016–2026.* Los Angeles, CA: UCLA.

———. 2009 (March). *University of California, Los Angeles 2008 Northwest Housing Infill Project and 2002 Long Range Development Plan Amendment Final Environmental Impact Report. Volume I* (SCH No. 2008051121; prepared by BonTerra Consulting). Los Angeles, CA: UCLA.

University of California Office of the President (UCOP). 2002. *UC CEQA Handbook* (Chapter 2 – Procedural Requirements). Oakland, CA: UCOP. http://www.ucop.edu/ceqa-handbook/.

Westwood Hills Property Owners Association and The Regents of the University of California, the President of the University of California, and the Chancellor of the University of California. 1978 (February). Stipulated Agreement of Compromise and Order Thereon. Los Angeles, CA: Superior Court of the State of California for the County of Los Angeles.

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SECTION 2.0 INTRODUCTION

2.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

To address the current and projected future unmet demand for housing, the University of California, Los Angeles (UCLA) has identified a potential to develop up to 6,900 beds at 5 identified on campus sites. Because this additional student housing was not contemplated in the 2002 Long Range Development Plan (LRDP), as amended in March 2009 (hereinafter referred to as the Existing LRDP), UCLA is proposing to amend the Existing LRDP to allocate an additional 1,500,000 gross square feet (gsf) of new development in various campus zones, as necessary to accommodate the residential development. A detailed description of the LRDP Amendment (2017) and Student Housing Projects (proposed Project), is provided in Section 3.0, Project Description, of this Draft Subsequent Environmental Impact Report (SEIR).

This Draft SEIR has been prepared to evaluate the potential environmental impacts associated with the proposed LRDP Amendment, and implementation of the proposed student housing and associated actions. This Draft SEIR been prepared in conformance with the California Environmental Quality Act (CEQA, *California Public Resources Code,* Section 21000 et seq.), the State CEQA Guidelines (Title 14, *California Code of Regulations* [CCR]*,* Chapter 3, Section 15000 et seq.), and the University of California (UC) Procedures for Implementing CEQA. The UC Board of Regents (The Regents) is the Lead Agency under CEQA and is responsible for preparing the SEIR. The determination that The Regents is the "lead agency" is made in accordance with Sections 15051 and 15367 of the State CEQA Guidelines, which define the lead agency as the public agency that has the principal responsibility for carrying out or approving a project. Further, preparation of this Draft SEIR is subject to Section 21080.09(d) of the *California Public Resources Code,* which requires that public higher education institutions consider the environmental impacts of academic and enrollment plans.

UCLA has prepared this Draft SEIR for the following purposes:

- To satisfy the requirements of CEQA (*California Public Resources Code,* Sections 21000–21178), the State CEQA Guidelines (Title 14, CCR, Chapter 14, Sections 15000–15387), and the UC Guidelines for the Implementation of CEQA.
- To inform the general public, the local community, responsible and interested public agencies, and The Regents of the scope of the LRDP Amendment (2017) and Student Housing Projects and to communicate the potential environmental effects, measures to mitigate those effects, and alternatives to the proposed Project.
- To enable The Regents to consider environmental consequences when deciding whether to approve the proposed Project.
- To serve as a source document for responsible agencies to issue permits and approvals, as required, for implementation of the proposed Project, including development of the proposed student housing projects.

As described in CEQA and the State CEQA Guidelines, public agencies are charged with the duty to avoid or substantially lessen significant environmental effects, where feasible. In satisfying this duty, a public agency has an obligation to balance the proposed Project's significant effects on the environment with its benefits, including economic, social, technological, legal, and other benefits. This Draft SEIR is an informational document, the purpose of which is to identify the potentially significant effects of the proposed Project on the environment and to indicate the manner in which those significant effects can be avoided or significantly lessened; to identify any significant and unavoidable adverse impacts that cannot be mitigated; and to identify reasonable

and feasible alternatives to the proposed Project that would eliminate any significant adverse environmental effects or reduce the impacts to a less than significant level.

The lead agency is required to consider the information in the SEIR, along with any other relevant information, in making its decisions on the proposed Project. Although the SEIR does not determine the ultimate decision that will be made regarding approval of the proposed LRDP Amendment (2017) and Student Housing Projects, CEQA requires the University to consider the information in the SEIR and make findings regarding each significant and unavoidable effect identified in the SEIR. The Regents will review and consider certification of the Final SEIR prior to any decision on whether to approve the proposed Project.

2.2 TYPE OF ENVIRONMENTAL IMPACT REPORT

The 2002 LRDP Final EIR (State Clearinghouse [SCH] No. 2002031115) was prepared to analyze the environmental impacts resulting from implementation of the 2002 LRDP and was certified by The Regents in February 2003. The March 2009 LRDP Amendment Final EIR (SCH No. 2008051121) was certified by The Regents in March 2009 and addresses the Northwest Housing Infill Project and 2002 LRDP Amendment Project. The March 2009 LRDP Amendment Final EIR updated the impact analysis and conclusions of the 2002 LRDP Final EIR. The 2002 LRDP Final EIR and March 2009 LRDP Amendment Final EIR are Program EIRs prepared in accordance with CEQA (*California Public Resources Code,* Sections 21000, et seq., specifically, Section 21094), the State CEQA Guidelines (Title 14, CCR, Sections 15000 et seq.), and the UC Procedures for the Implementation of CEQA.

At the onset of the CEQA process for the proposed Project, the University determined that an SEIR tiered from the March 2009 LRDP Amendment Final EIR was the appropriate environmental document for the proposed Project. Section 15162 of the State CEQA Guidelines provides that an SEIR is required if one of the following occurs:

1. Substantial changes are proposed in the project requiring major revisions to the previous EIR because of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes have occurred with respect to the circumstances under which the project is undertaken, which will require major revisions to the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was certified as complete shows any of the following: (a) the project will have one or more significant effects not discussed in the previous EIR; (b) significant effects previously examined will be substantially more severe than shown in the previous EIR; (c) mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or (d) mitigation measures or alternatives which are considerably different from those analyzed in the Final EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

As demonstrated through the analysis presented in Sections 4.1 through 4.14 of the Draft SEIR, the proposed Project, and specifically the proposed housing project at the Warren Hall site, would result in a significant impact to a historic resource. As discussed in Section 4.4, Cultural Resources and Tribal Cultural Resources, of this Draft SEIR, the proposed housing project at the

Warren Hall site would involve the demolition of the existing Warren Hall building, which has been determined to be an eligible historic resource, resulting in a significant and unavoidable impact. This is a new significant impact not identified in the LRDP Final EIR for which there is no feasible mitigation; an alternative to adaptively reuse the existing Warren Hall building has been considered in Section 5.0, Alternatives, of this Draft SEIR. Therefore, due to the identification of a new significant and unavoidable impact, not addressed in the March 2009 LRDP Amendment Final EIR, preparation of a SEIR is appropriate for the proposed Project. Potentially significant and unavoidable impacts identified for other topical issues (e.g., air quality, noise and traffic) are similar to significant and unavoidable impacts identified in the March 2009 LRDP Amendment Final EIR.

The proposed LRDP Amendment to allocate an additional 1,500,000 gsf of development in various campus zones, as necessary to accommodate the proposed student housing projects, is appropriately being evaluated in this Draft SEIR at a "program level" because an LRDP is a land use plan that guides the physical development of the campus; it is not an implementation plan. A LRDP describes the entire development program for the campus through an anticipated horizon year. Adoption of an LRDP or amendments to an LRDP do not constitute a commitment to any specific project, construction schedule, or funding priority. Rather, each specific development proposal (such as the proposed student housing projects) must be approved individually by the relevant decision making body. Subsequent actions implementing the proposed LRPD Amendment, such as design approval for the individual housing projects, will be reviewed as required by Section 21166 of the *California Public Resources Code* and Section 15162 of the State CEQA Guidelines. Section 15168 of the State CEQA Guidelines states:

15168. Program EIR

(a) General. A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

(1) Geographically,

(2) As logical parts in the chain of contemplated actions,

(3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or

(4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

(b) Advantages. Use of a program EIR can provide the following advantages. The program EIR can:

(1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,

(2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,

(3) Avoid duplicative reconsideration of basic policy considerations,

(4) Allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and

(5) Allow reduction in paperwork.

(c) Use with Later Activities. Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.

(1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.

(2) If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.

(3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.

(4) Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

(5) A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

This Draft SEIR has been prepared "with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences," as identified in Section 15151 of the State CEQA Guidelines. While detailed design information for the student housing projects proposed at five on campus sites is currently not available, there is sufficient information available: (1) to identify specific development sites and associated potential physical impact areas and construction assumptions; (2) to identify the maximum number of beds anticipated at each site; (3) to identify the types of support uses that would be necessary to accommodate the students at each site; and (4) determine the size (e.g., square footage, height and massing) of potential structures at each site, as necessary to accommodate the proposed uses. This level of information is sufficient to allow for a project-level analysis of the assumed "maximum development" scenario on campus (e.g., 6,900 beds, a net increase of 1,500,000 gsf of development), and at the individual proposed housing sites. Therefore, while this is a program-level SEIR, consistent with Section 15168(c)(5) of the CEQA Guidelines, the intent of the Draft SEIR is to provide sufficient detailed analysis such that future design approvals for the student housing projects are within the scope of the proposed Project described and analyzed in this Draft SEIR. At the design approval stage, the University will evaluate each individual housing project to determine whether it is within the scope of the program described and evaluated in this Draft SEIR, and to determine what, if any, additional environmental documentation pursuant to CEQA, is needed.

With respect to tiering from the March 2009 LRDP Amendment Final EIR, Section 15152 of the State CEQA Guidelines states, "'Tiering' refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general

discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on issues specific to the later project." CEQA and the State CEQA Guidelines encourage the use of tiered environmental documents to eliminate repetitive discussions of the same issues. Therefore, this Draft SEIR is hereby tiered from the March 2009 LRDP Amendment Final EIR, which is incorporated by reference. Notably, this Draft SEIR tiers from applicable discussions of the regional and local setting and regulatory framework from the March 2009 LRDP Amendment Final EIR, and carries forward applicable campus programs, practices, and procedures (PPs) and mitigation measures (MMs) for the LRDP Final EIR that are incorporated into the proposed housing projects (discussed further in Section 4.0, Introduction to the Environmental Analysis, of this Draft SEIR). The LRDP Final EIR is available for review at the UCLA Capital Programs Environmental Planning office, at the address listed below in Section 2.4, and online at http://www.capitalprograms.ucla.edu/Planning/LongRangeDevelopmentPlan.

Further, Section 15152(f) of the State CEQA Guidelines instructs that when tiering, a later EIR or Negative Declaration shall be prepared when the later project may cause significant effects on the environment that were not adequately addressed in the prior EIR or Negative Declaration. Significant environmental effects are considered to have been "adequately addressed" if the lead agency determines that one of the following occur:

(A) they have been mitigated or avoided as a result of the prior environmental impact report and findings adopted in connection with that prior environmental report or

(B) they have been examined at a sufficient level of detail in the prior environmental impact report to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project.

Following review of the proposed Project and the analysis presented in the March 2009 LRDP Amendment Final EIR, it was determined that the proposed Project, which would increase the amount of development (building square footage) on campus, is a "project" under CEQA that for which the potential significant environmental effects were not fully addressed in the LRDP Final EIR. Therefore, additional environmental review is required.

In summary, this tiered Draft SEIR provides a detailed environmental analysis to determine if the proposed LRDP Amendment (2017) and Student Housing Projects and associated actions would result in any significant impacts not adequately addressed in the March 2009 LRDP Amendment Final EIR and/or if additional mitigation measures beyond those adopted in the MMRP for the LRDP Amendment would be required to reduce identified impacts to a less than significant level. The environmental analysis presented in this Draft SEIR examines all phases of the project, including planning, construction, and operation, and feasible alternatives to the project.

2.2.1 REVIEW OF AN ENVIRONMENTAL IMPACT REPORT

The Regents—as Lead Agency for the proposed Project—and other public agencies (i.e., responsible and trustee agencies) that may use this tiered Draft SEIR in their decision-making or permitting processes will consider the information in this tiered Draft SEIR along with other information that may be presented during the CEQA process.

Upon certification of the Final SEIR, The Regents will consider whether to approve the proposed Project and associated discretionary actions identified in Section 3.9 of this Draft SEIR. As a part of their consideration for Project approval, The Regents must approve Findings of Fact, a Statement of Overriding Considerations, and a Mitigation Monitoring and Reporting Program (MMRP). Where feasible mitigations are not available to reduce significant environmental impacts

to a less than significant level, impacts are considered significant and unavoidable. Written findings will be prepared for each significant adverse environmental effect identified in the Final SEIR, as required by Section 15091 of the State CEQA Guidelines. If The Regents certify a Final EIR for a project that has significant and unavoidable impacts, The Regents shall also state, in writing, the specific reasons for approving the project based on the Final EIR and any other information in the public record. This is called a "Statement of Overriding Considerations" and is used to explain the specific reasons that the benefits of a proposed project make its unavoidable environmental effects acceptable. The Statement of Overriding Considerations is adopted after the Final EIR is certified and before action to approve the proposed Project has been taken. Additionally, The Regents must adopt the MMRP to ensure compliance with mitigation measures that have been incorporated into the proposed Project to reduce or avoid significant effects on the environment during construction and/or implementation.

The actions that may be involved in implementing the proposed Project are described in Section 3.9, Anticipated Discretionary Approvals, of this Draft SEIR. Other agencies that may have discretionary approval over the proposed Project, or components thereof, including responsible and trustee agencies, are also listed in Section 3.9.

2.3 ENVIRONMENTAL IMPACT REPORT FOCUS

2.3.1 SCOPING PROCESS

In compliance with Section 15201 of the State CEQA Guidelines, UCLA has taken steps to provide opportunities for public participation in the environmental process. A Notice of Preparation (NOP) was distributed on May 5, 2017, to State, regional, and local government agencies and interested parties for a 30-day public review period to solicit comments and to inform agencies and the public of the proposed LRDP Amendment (2017) and Student Housing Projects. The proposed Project was described; potential environmental effects associated with project implementation were identified; and agencies and the public were invited to review and comment on the NOP/Initial Study. In addition to the confirmation of NOP transmittal from the Governor's Office of Planning and Research (OPR), UCLA received nine NOP comment letters (from four agencies, one organization, and four individuals). The NOP and NOP comment letters received are included in Appendix A of this Draft SEIR. Table 2-1 includes a summary of the NOP comments received. The table also includes a column that identifies which section(s) of this Draft SEIR the individual comments are addressed in.

TABLE 2-1
NOTICE OF PREPARATION COMMENT LETTERS RECEIVED

Agency/Individual	Date	Comments	Addressed in Section(s)
State and Regional Agencies			
Governor's Office of Planning and Research (OPR)	May 5, 2017	Letter from OPR to State agencies transmitting the Notice of Preparation (NOP) and identifying the official 30-day public review period.	Not applicable
California Department of Transportation (Caltrans)	June 5, 2017	• Regional and State level policy goals related to sustainable transportation should be considered. • Due to UCLA's proximity to I-405, Caltrans requests a peak hour queueing analysis for nearby on- and off-ramps, and signal studies. • Average daily traffic (ADT) as well as AM and PM peak hour volumes for existing and future conditions should be identified. • Existing conditions for traffic counts should include bicycle and pedestrian traffic. • Transportation-related impacts should be addressed through appropriate multi-modal mitigation measures to reduce vehicle trips. • Parking should be limited to reduce car use and convenient on-site bicycle parking and other amenities for non-automobile modes of transportation should be considered. • The use of oversized transport vehicles on State highways requires a Caltrans transportation permit. • Caltrans recommends the large size truck trips be limited to off-peak commute periods. • The Project needs to be designed to discharge clean run-off water.	Section 4.6 Section 4.13
California Native American Heritage Commission (NAHC)	May 12, 2017	• An analysis of Tribal Cultural Resources is required as a separate category of cultural resources. • Consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the project is recommended and a summary of the requirements of Assembly Bill (AB) 52 and Senate Bill (SB) 18, which address Native American tribal consultation, is provided. • Recommendations for cultural resources assessments are provided.	Section 4.4

TABLE 2-1
NOTICE OF PREPARATION COMMENT LETTERS RECEIVED

Agency/Individual	Date	Comments	Addressed in Section(s)
South Coast Air Quality Management District (SCAQMD)	May 19, 2017	• Air quality (construction-related, operational, and indirect sources) and greenhouse gas (GHG) emissions impacts should be addressed and mitigation measures identified. • Sources of information are provided related to the air quality and GHG analyses to be used to meet its requirements and related to mitigation measures to be considered.	Section 4.2 Section 4.6
Los Angeles County Metropolitan Transportation Authority (Metro)	June 5, 2017	• There are Metro bus lines in the LRDP area, and it is recommended that the LRDP include language that informs of Metro's notification procedures and considerations for projects located in close proximity to a Metro facility that may impact Metro bus operations.	Section 4.13
Organizations and Individuals			
Westwood Hills Property Owners Association (WHPOA)	June 11, 2017	• The impact of the increase in on-campus residents on campus and community facilities (e.g., roads, air quality, public services, recreation/open space, and public resources) should be addressed. • Impacts from construction activities (e.g., hauling and grading) on neighboring Westwood areas and the campus community should be addressed. • The Draft EIR should address the Stipulated Agreement between the WHPOA and University of California. • The impacts of development at the Lot 15 site on residents of Westwood Hills should be addressed (e.g., noise, light spillover, degraded views, increased traffic, and ongoing maintenance and service activities). • Previously developed mitigation in the Stipulated Agreement and previous LRDP EIRs should be acknowledged and incorporated into the current EIR. • Visual impacts from the proposed development at Lot 15 should be addressed and previously identified mitigation should be incorporated. • Facility construction and maintenance activities should comply with City of Los Angeles code requirements. • Building entrances and exits and student outdoor activity space should be oriented toward the campus. • The Draft EIR should consider an alternative that includes minimizing the negative impacts by building a smaller facility at the Lot 15 site and/or that relocates the larger building to an alternative site on the southwest campus (Southwest zone).	Section 4.1 Section 4.2 Section 4.9 Section 4.10 Section 4.11 Section 4.12 Section 4.13 Section 5.0

TABLE 2-1
NOTICE OF PREPARATION COMMENT LETTERS RECEIVED

Agency/Individual	Date	Comments	Addressed in Section(s)
Phillip Jackson	May 30, 2017	• Mr. Jackson lives near the Lot 15 site and supports the construction of new residential uses under the condition that reasonable steps are taken to provide for student parking and reasonable height limits are considered.	Section 3.0 Section 4.1
Alvin Milder	June 12, 2017	• Explain the basis for tiering the analysis for this Project. • Explain the proposed modifications to use restrictions that apply to the Northwest zone.	Section 2.0 Section 3.0
Jane Mintz	June 11, 2017	• The impact of the increase in on-campus residents on local facilities and roadways (e.g., traffic, access to emergency services, delays on roadways, increased noise, and air quality impacts) should be discussed. • Impacts from noise and light spill should be addressed. • Construction, maintenance, and other operational activities should comply with City of Los Angeles code requirements. • Building entrances and exits and student outdoor activity space should face the main campus and not Veteran Avenue. • A smaller building or alternative site should be considered.	Section 4.1 Section 4.2 Section 4.9 Section 4.10 Section 4.12 Section 4.13 Section 5.0
Alan Stamm	May 30, 2017	• Mr. Stamm does not object to new construction as long as it does not further increase traffic on Veteran Avenue. • Consider development at other UC campuses that have more room to grow.	Section 4.13 Section 5.0

On May 31, 2017, UCLA held a public scoping meeting at the UCLA Carnesale Commons to describe the proposed Project; to answer questions; and to seek public input regarding the proposed scope of the Draft SEIR analysis. A notice for the scoping meeting was sent out with the NOP and the meeting was also advertised on the UCLA Capital Programs website. The meeting was attended by one individual who was interested in learning more about the proposed housing projects; no input regarding the scope of the Draft SEIR was provided. Other than UCLA, there were no public agency representatives present at the scoping meeting.

It should also be noted that UCLA has held five meetings with the Westwood Hills Property Owners Association (WHPOA) regarding the proposed development at Lot 15 site, and will have formal meetings with WHPOA Leadership to discuss the proposed modification to the 1978 Stipulated Agreement of Compromise and Order entered by the Los Angeles Superior Court resolving litigation filed by the Westwood Hills Property Owners Association against The Regents of the University of California.

2.3.2 EFFECTS FOUND NOT TO BE SIGNIFICANT

The NOP included in Appendix A of this Draft SEIR identifies that the proposed Project would result in no impacts related to agricultural and forestland resources and mineral resources, consistent with the conclusions of the impact analysis in the Initial Study prepared for the March 2009 LRDP Amendment Final EIR. These environmental issues are not evaluated in further detail in this Draft SEIR. Following is a summary of the impact conclusion for these topics as presented in the Initial Study for the 2009 LRDP Amendment Final EIR; these conclusions remain applicable to the UCLA campus.

- **Agricultural and Forestland Resources.** The campus is not located on or near designated agricultural land. No farmland, agricultural activity, forestland, or timberland exist on the campus, and no portion of the campus is zoned for agricultural, forestland, or timberland. Property within the UCLA campus is not under a Williamson Act contract.
- **Mineral Resources.** The campus is not in an area classified as having locally important or known mineral resources and would not result in the loss of availability of a known mineral resource.

2.4 PUBLIC REVIEW OF THE DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

This Draft SEIR is being circulated for review and comment to the public and other interested parties, agencies, and organizations for a 45-day period. The comment period will begin on August 24, 2017, and end on October 9, 2017. A public hearing on the Draft SEIR, where oral comments may be presented, will also be held during the public review period. During the review period, the Draft SEIR, including technical appendices, will be available on the UCLA website at http://www.capitalprograms.ucla.edu/EnvironmentalReview/ProjectsUnderEnvironmentalReview and at the Charles E. Young Research Library.

This Draft SEIR and documents referenced in this Draft SEIR will also be available for review at the Capital Programs building located at 1060 Veteran Avenue (third floor) from 8:00 AM to 5:00 PM, Monday through Friday. Written comments on the Draft SEIR should be addressed as follows:

Ms. Tracy Dudman, Senior Planner
UCLA Capital Programs, Environmental Planning
1060 Veteran Avenue, Box 951365
Los Angeles, California 90095-1365
(310) 206-9255

Following the Draft SEIR's public review period, responses to written comments received will be prepared and published in a Final SEIR. The Final SEIR—which will consist of the Draft SEIR, comments on the Draft SEIR, and written responses to those comments—will be considered for certification by The Regents consistent with Section 15090 of the State CEQA Guidelines. All responses to agencies' comments submitted for this Draft SEIR will be provided to those agencies at least ten days prior to final action on the proposed Project. The Regents must consider the Final SEIR prior to any decision to approve or reject the proposed Project; these actions can only be approved if the Final SEIR is certified.

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SECTION 3.0 PROJECT DESCRIPTION

3.1 BACKGROUND AND NEED FOR THE PROJECT

A Long Range Development Plan (LRDP) is defined by statute (*Public Resources Code,* Section 21080.09[2]) as a "physical development and land use plan to meet the academic and institutional objectives for a particular campus or medical center of public higher education." It defines the campus goals, program needs and physical development guidelines, while retaining flexibility to respond to unanticipated circumstances. The University of California, Los Angeles (UCLA) LRDP adopted by The Regents of the University of California in 2002, as amended in 2009 and subsequently thereafter,[1] is the operative LRDP for the UCLA campus (hereinafter referred to as the "Existing LRDP"). As further discussed in Section 3.7, Long Range Development Plan Amendment (2017), of this Draft Subsequent Environmental Impact Report (SEIR), the Existing LRDP allocated approximately 1.87 million gross square feet (gsf) of remaining development allocation on campus between the 8 campus zones (UCLA 2009a). Since its adoption, approval of various projects has reduced the original 1.87 million gsf allocation to a remaining approximately 174,615 gsf.

In 1986, UCLA drafted its first comprehensive Student Housing Master Plan (SHMP), which was designed to provide direction to the campus in addressing student housing needs in support of the institution's academic mission. The SHMP has subsequently been updated six times, with the latest update, the *Student Housing Master Plan 2016–2026,* being completed in March 2017. A fundamental tenet underlying the housing objectives for the campus has continued to be transforming UCLA from a commuter campus to a residential campus. Notably, the on-campus supply of undergraduate beds has increased from approximately 4,300 to 12,800 in the approximate 30 years since UCLA drafted its first SHMP (UCLA 2017).

UCLA currently provides a three-year housing guarantee to all incoming first-year students and a one-year guarantee to incoming transfer students. For graduate students, UCLA does not currently offer a guarantee beyond spaces allocated for 1,000 students nominated by their departments. The remaining graduate inventory is filled based on lottery applications and is insufficient to provide a guarantee to all incoming students or meet current demand. UCLA currently accommodates approximately 14,300 undergraduate students (approximately 46 percent of the undergraduate population) in on-campus housing and University-owned apartments within 1-mile of the campus. The campus also provides housing to more than 5,500 graduate students, faculty and staff, and their families. Approximately 3,400 graduate students (24 percent of the graduate population) currently live on campus or in off-campus University-owned housing.

Important benefits of University-owned housing are the cohesive nature of the community formed by groups of students living in close proximity and the associated environmental benefit of reducing vehicle trips to and from campus. Students who live in the residential community benefit from the resources offered to them through various on-campus housing programs, such as academic, social, and learning programs. Additionally, campus housing options offer students relative affordability compared with housing available in the community. Based on these and other

[1] Since approval of the March 2009 LRDP Amendment, there have been four amendments to the LRDP: transfer of 52,000 square feet (sf) from the Core zone to the Central zone to accommodate the Pauley Pavilion Renovation and Expansion Project; transfer of 80,000 sf from the Southwest zone and 175,000 sf from the Bridge zone to accommodate the Meyer and Renee Luskin Conference and Guest Center Project; transfer of 130,000 sf from the Northwest zone to the Central zone; and transfer of 30,000 sf from the Southwest zone to the Bridge zone to accommodate the Margan Apartments Redevelopment Project.

principles, the proposed Project is intended to address the following applicable goals from the SHMP 2016–2026:

- University housing will be guaranteed to all entering first-year students for a period of four years.
- University housing will be guaranteed to all new transfer students for a period of two years.
- University housing will be guaranteed to new graduate and professional students for a period of two years. University housing will be guaranteed to new graduate and professional student families with dependent children for as long as the student is making normal progress to degree conferment for up to seven years.

Further, University of California (UC) system-wide enrollment increases were approved by the UC President and The Regents in November 2015. UCLA began enrolling 750 more undergraduate students in fall 2016 as part of the University's commitment to enroll more California residents through fall 2020. In fall 2017 and 2018, an additional 375 undergraduate students will be enrolled, per year, for a total increase of 1,500 undergraduate students. This increase in enrollment presents challenges when coupled with the increasing demand for campus housing.

The current demand for housing exceeds existing supply. Even with the additional beds from new developments, redevelopments, conversion of faculty buildings, and renovations, UCLA Housing is meeting current guarantees for undergraduate and transfer students by maintaining higher than desired triple occupancy percentages (putting three students in rooms designed for two students). Without additional beds, the projected enrollment increases for fiscal year (FY) 2017 through FY 2020 will result in triple occupancy that will exceed 75 percent. With respect to graduate and professional student housing, the campus is able to provide housing to approximately 24 percent of graduate and professional students. In addition, the campus is able to provide academic departments with a limited number of bed spaces to allocate to graduate students, but does not have sufficient inventory to guarantee housing to all graduate students.

To address the current and projected future unmet demand for housing, the campus has identified a potential to develop up to 6,900 beds by adding 1,500,000 gsf of development allocation to the LRDP, at 5 on-campus sites. From this potential capacity, the campus will pursue development on three of the five sites that could be available as soon as the fall of 2021 to partially accommodate the increased enrollment; to increase the housing guarantee for entering first-year students from 3 to 4 years; to increase the guarantee for transfer students from 1 year to 2 years; to reduce the triple occupancy percentage closer to the 60–70 percent target identified in the SHMP 2016–2026*;* and to meet existing unmet graduate housing demand.

Because this additional student housing was not contemplated under the Existing LRDP, UCLA proposes to amend the Existing LRDP to allocate an additional 1,500,000 gsf of new development in various campus zones necessary to accommodate the proposed residential development. The proposed LRDP Amendment would retain the remaining 174,615 gsf of development allocation and would maintain the same Existing LRDP average daily vehicle trip and parking inventory limits. A detailed description of the proposed housing developments and associated proposed amendment to the Existing LRDP (collectively the proposed LRDP Amendment [2017] and Student Housing Projects, hereinafter referred to as the "proposed Project") is provided in the following sections.

It should be noted that the City of Los Angeles has been selected to host the 2028 Olympics. It is expected that UCLA would provide housing to the Olympic athletes, and the proposed student housing projects would be used during this time. However, the provision of housing during the

Olympics is not the purpose for the proposed housing. As outlined above, the proposed housing is needed to address the current and projected future unmet demand for student housing on campus.

3.2 PROJECT OBJECTIVES

Section 15124 of the California Environmental Quality Act (CEQA) Guidelines establishes the requirement to address project objectives in the Project Description section of the environmental impact report (EIR). In addition to addressing the underlying project purpose, the objectives are also relevant to the development of alternatives that will be considered in an EIR and in the Preparation of Findings or Statement of Overriding Considerations, if necessary, in support of the decision-making action. The following objectives have been established for the proposed Project:

1. Provide new, on-campus, undergraduate and graduate student housing that improves the quality of student life, supports the academic experience, and fosters their personal and social development.
2. Provide up to 6,900 undergraduate and graduate student beds in on-campus housing to address current and anticipated demand consistent with the Student Housing Master Plan goals.
3. Continue the development of University-owned housing to ensure that student housing remains affordable, while providing different housing options to meet the needs of a diverse group of UCLA students.
4. Continue the transformation of the UCLA campus from a commuter to a residential campus, which reduces vehicle miles traveled and energy consumption.
5. Provide University-owned housing that is competitive in the surrounding Westwood residential housing market, offering units below current rental market rates for similar style units.
6. Provide additional on-campus student housing that includes apartment-style housing, which is considered essential for the recruitment of outstanding graduate and transfer students and for the retention of upper division undergraduates.
7. Provide additional on-campus, dormitory-style housing for first- and second-year undergraduates.
8. Provide on-campus student housing that maximizes the use of limited land resources through dense development of on-campus sites, consistent with a mature urban University.
9. Provide new on-campus graduate housing in the Southwest zone of campus that is designed to continue to build a graduate-level community proximate to academic, recreation, and social resources.
10. Site and develop new student housing proximate to existing University housing to bridge efficiencies in the availability of dining services, recreational facilities, and resident student programming.
11. Plan, design, and implement the proposed Project in a manner consistent with the UC Policy on Sustainable Practices.

3.3 PROJECT LOCATION

Located in the community of Westwood in the City of Los Angeles, the 419-acre UCLA campus is approximately 12 miles northwest of downtown Los Angeles and 6 miles from the Pacific Ocean. The main campus is generally bound by Le Conte Avenue to the south, Gayley Avenue and Veteran Avenue to the west, Sunset Boulevard to the north, and Hilgard Avenue to the east. The Southwest zone, also part of the main campus, is located immediately north of Wilshire Boulevard generally between Gayley Avenue and Veteran Avenue. Figure 3-1 depicts the regional location and local vicinity of the main campus.

The proposed housing projects would be developed at 5 sites on the main campus; the locations of these sites are described below and are also shown on Figure 3-2, which provides a map of the UCLA campus.

- **Lot 15.** This site is located in the Northwest zone generally west of De Neve Drive, south of the existing Hitch Suites, and north of the existing Saxon Suites.
- **Warren Hall.** This site is located in the Southwest zone at 900 Weyburn Place North, west of Weyburn Place and north of Weyburn Avenue.
- **University Extension (UNEX).** This site is located in the Bridge zone at 10995 Le Conte Avenue, in the northwest quadrant of the Le Conte Avenue/Gayley Avenue intersection and east of Levering Avenue.
- **Bradley.** This site is located in the Northwest zone and consists of the undeveloped sloped area adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive, south of the Bradley International Hall.
- **Drake Stadium.** This site is located in the Central zone at Drake Stadium, located south of Sunset Boulevard and east of Charles E. Young Drive West. The proposed housing structure would be developed in the area over and surrounding the existing concourse.

3.4 ENVIRONMENTAL SETTING

The March 2009 Long Range Development Plan (LRDP) Amendment Final EIR (LRDP Final EIR) includes descriptions of the regulatory and environmental settings for the region, the UCLA campus, and surrounding areas. Unless otherwise noted in the respective technical sections, the regulatory and environmental settings of the region, the UCLA campus, and surrounding areas have not substantially changed since certification of the March 2009 LRDP Amendment Final EIR in March 2009. Therefore, they are not repeated in this document. However, a summary of this information and/or updated information is provided for each environmental analysis topic, as applicable.

Following is a summary description of the environmental setting for the campus, the campus zones that the proposed housing sites are located in, and each of the proposed sites. Additional information regarding the environmental setting is provided for each topical issue in Sections 4.1 through 4.14 of this Draft SEIR.

3.4.1 UCLA MAIN CAMPUS

The approximate 419-acre UCLA main campus has been developed with a variety of academic and related uses, with facilities dedicated to instructional, research, support, recreational, medical, and housing uses. The UCLA LRDP delineates eight campus land use zones for the main campus and allocates new development square footage according to campus strategic needs in each

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Regional Location and Local Vicinity

Figure 3-1

UCLA LRDP Amendment (2017) and Student Housing Projects

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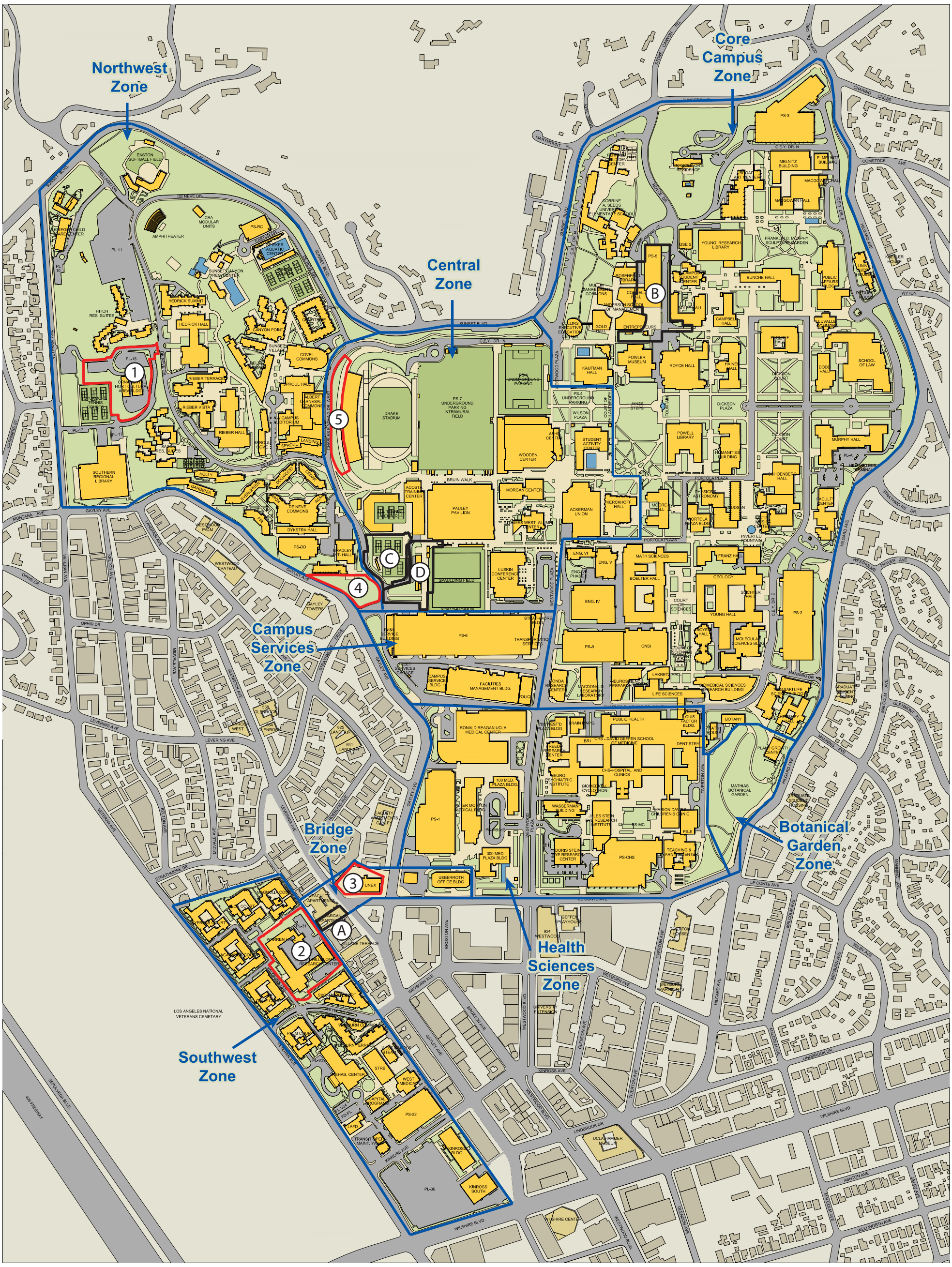

Campus Map

Figure 3-2

UCLA LRDP Amendment (2017) and Student Housing Projects

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zone. The Existing LRDP provides for the development of approximately 1.87 million gsf and up to 25,169 parking spaces on the main campus.

As further discussed in Section 3.7.1, UCLA currently has approximately 18.54 million gsf of occupied space. Additionally, there are buildings under construction or approved for development that will result in a net increase of approximately 123,000 gsf of development on campus. Collectively, there is approximately 18.65 million gsf of existing and approved LRDP entitlement (not including parking structures). As identified previously, there is 174,615 gsf of remaining development allocation in the Existing LRDP (not allocated to an existing or approved project).

The campus map provided in Figure 3-2 depicts the campus zones, existing uses, and construction projects on campus (approved projects).

As shown on the aerial photograph provided in Figure 3-1, the campus is primarily surrounded by residential land uses, with the exception of the Westwood Village commercial area (generally south of the Health Sciences zone and east of the Southwest zone), and a section of the Los Angeles National Cemetery (to the west of the Southwest zone).

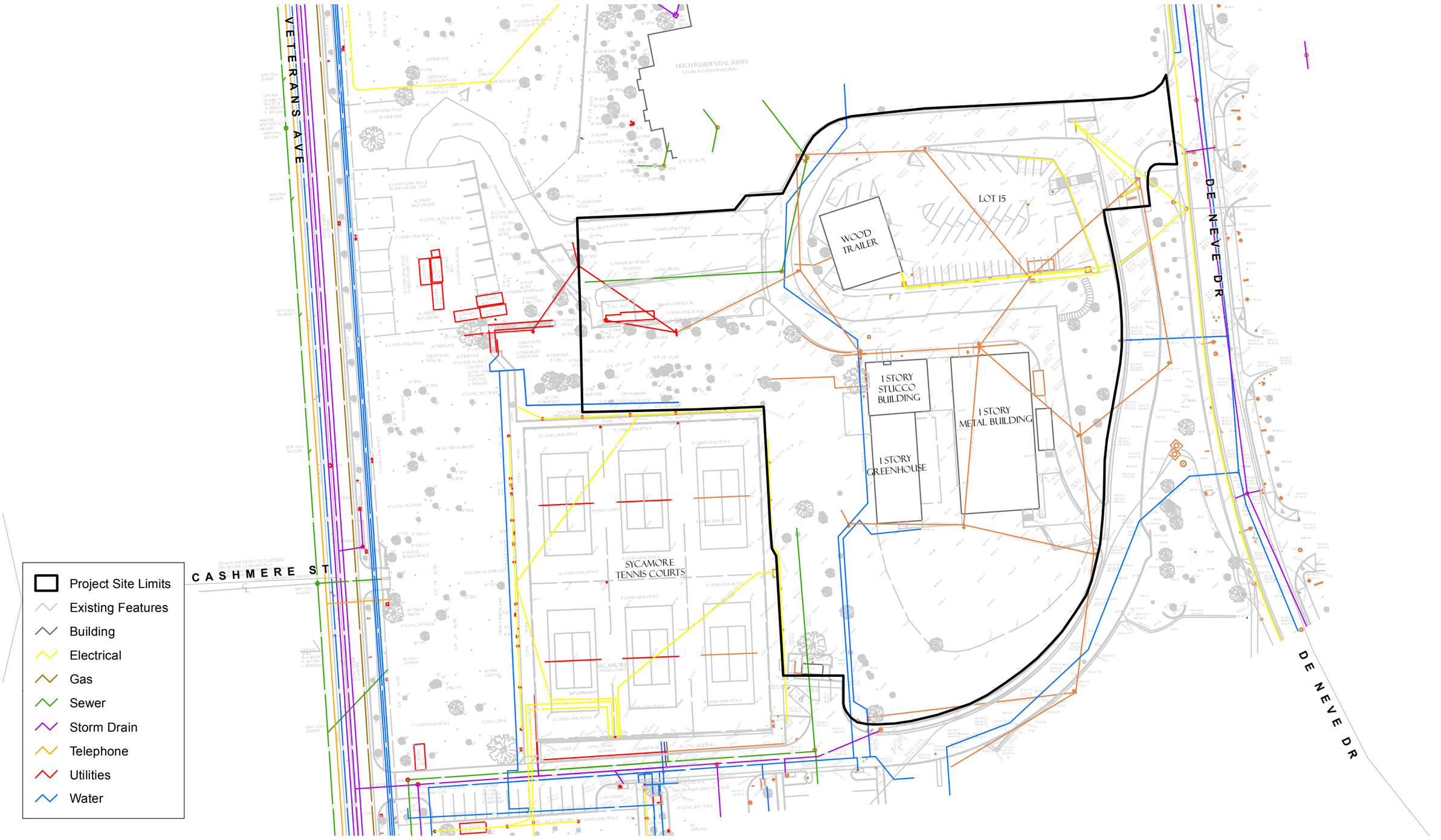
3.4.2 PROPOSED HOUSING SITES

Lot 15 and Bradley Sites (Northwest zone)

The Lot 15 and Bradley housing sites are located in the Northwest zone. The Northwest zone constitutes approximately 90.5 acres of the 419.0-acre UCLA campus, and primarily includes residential and recreational uses, and other functions that support housing and the greater academic community. With respect to residential uses, under existing conditions, there are approximately 12,800 undergraduate beds available (based on occupancy in fall 2017) in various residence halls (Dykstra, Hedrick, Rieber, Sproul, Gardenia, Holly, and Sproul Cove and Landing) and residential suites and plazas (Hitch, Hedrick Summit, Rieber Terrace, Rieber Vista, Saxon, De Neve, and Sunset Village). Residential support uses (e.g., administration, dining, fitness/recreation, study area) are also located in the Northwest zone.

Uses in the Northwest zone that support the academic community include the Southern Regional Library and the Krieger Child Care Center. This zone also includes campus-wide recreational facilities, such as the Sunset Canyon Recreation Center, Sunset Canyon Tennis Courts, Sycamore Tennis Courts, Easton Stadium, and the Spieker Aquatic Center. Information about both the Lot 15 and Bradley sites is provided below.

- **Lot 15 Site.** The Lot 15 site encompasses approximately 3.1 acres and is located generally west of De Neve Drive, south of the existing Hitch Suites, and north of the existing Saxon Suites. The site survey for Lot 15, which depicts its existing conditions, is provided on Figure 3-3. The proposed housing site generally consists of three roughly level pads (referred to herein as west, north, and south pads) separated by an approximate 15-foot-high south-facing slope. The north pad consists of a previous surface parking (Lot 15) currently used for a portable office structure, and storage containers. The south pad is currently occupied by a greenhouse and facilities used by the UCLA Housing and Facilities Management departments for storage of parts, material, and plants (Ornamental Horticultural Area buildings). Bulky materials and containers, recycling, and some earth materials are temporarily stored on the west pad. Topography at the site has been altered by past grading associated with the construction of the current site uses. Generally, the elevation at the north pad is approximately 509 to 512 feet above mean sea level (msl), the south pad is approximately 490 feet above msl, and the west pad is 485



Lot 15 Site Survey

Figure 3-3

UCLA LRDP Amendment (2017) and Student Housing Projects

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feet above msl. Surface water runoff sheet-flows along the existing ground surface towards the adjacent City streets and associated storm drainage infrastructure.

Vegetation on and in the vicinity of the Lot 15 site is a mix of native vegetation and ornamental plantings. Vegetation types included California sagebrush scrub, California sagebrush scrub-native grassland ecotone, California sagebrush-non-native grassland ecotone, non-native grassland, coast live oak, western sycamore, coast live oak/western sycamore, ornamental plantings, coast live oak/ornamental plantings, and developed. Refer to Section 4.3, Biological Resources, of this Draft SEIR, for a complete description of existing vegetation on this site. There are no naturalized areas, stream channels, or otherwise sensitive hydrologic or biological resources on the Lot 15 site. Existing uses surrounding the Lot 15 site include the Hitch and Saxon residential suites to the north and southeast, respectively; Sycamore Tennis Courts, a paved access road, and Lot 17 to the south; the Southern Regional Library to the southwest; and an access road and area used for storage and maintenance to the west/northwest. De Neve Drive forms the eastern site boundary, with existing student housing (i.e., Hedrick Hall, Rieber Hall) further to the east.

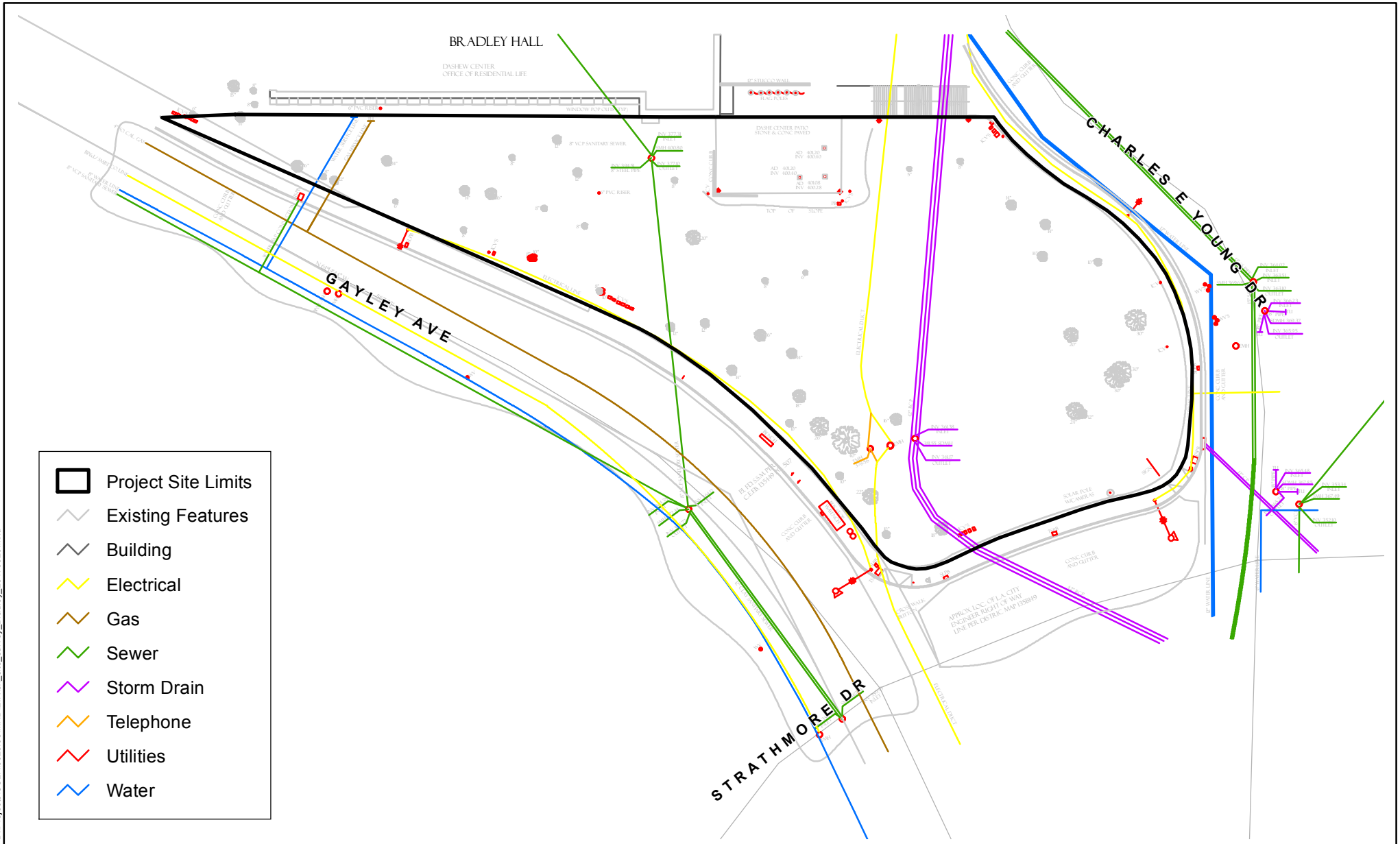
It should be noted that a 1978 Stipulated Agreement of Compromise and Order (Order), entered by the Los Angeles Superior Court resolving litigation filed by the Westwood Hills Property Owners Association against The Regents of the University of California (The Regents), limits development on Lot 15[2] to uses including, but not limited to, open green space; landscape buffers; pre-existing ornamental horticultural buildings and parking facilities; and low intensity, non-spectator, recreational and athletic spaces. The Order requires the use restriction to remain in effect until "there has been a substantial change of circumstances within the University as to warrant a modification . . .".

- **Bradley Site.** The Bradley site encompasses approximately 1.1 acres and consists of the undeveloped grassy knoll adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive, south of the Bradley International Hall. The site survey for the Bradley site is provided on Figure 3-4. Elevations at the site range from approximately 401 feet above msl along the northern site boundary to approximately 368 feet above msl adjacent to Strathmore Drive, along the southeastern site boundary. The site slopes gently to the east, west, and south. Surface water runoff sheet-flows along the existing ground surface towards the adjacent City streets and associated storm drainage infrastructure.

  Existing vegetation on and around the Bradley site consists primarily of turf grass, as well as native and ornamental trees and ornamental shrubs. There are no naturalized areas, stream channels, or otherwise sensitive hydrologic or biological resources on the Bradley site. Refer to Section 4.3, Biological Resources, of this Draft SEIR, for a complete description of existing vegetation on this site.

  Surrounding uses on campus include Bradley Hall to the north, the Mo Ostin Basketball Center to the east (under construction and across Charles E. Young Drive West), and Parking Structure 8 to the south (across Strathmore Drive). Gayley Avenue forms the western boundary of this site, and off-campus residential uses west of Gayley Avenue include various fraternity houses, the UCLA-owned Gayley Tower Apartments, and University Lutheran Chapel (not affiliated with UCLA).

[2] The land covered by the Order is bordered by Veteran Avenue on the west side of campus; by Sunset Boulevard to Bellagio Road on the north; by Bellagio Road and De Neve Drive and the line running south to Gayley Avenue from the intersection of De Neve Drive to then existing Lot 13 on the east; and on the south by Gayley Avenue west to Veteran Avenue.



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Bradley Site Survey

Figure 3-4

UCLA LRDP Amendment (2017) and Student Housing Projects

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Warren Hall (Southwest Zone)

The Warren Hall site encompasses approximately 3.9 acres and is located in the 35.5-acre Southwest zone. The Southwest zone is occupied by a variety of uses including, but not limited to, surface and structured parking, graduate student housing, medical research and clinical functions, administrative functions, scientific research, transit facilities, a steam plant, the relocated Kinross Recreation Center (KREC) facility, and Los Angeles Fire Station No. 37. The UCLA Geffen Academy, which will hold its first classes in the fall 2017, is also located in the Southwest zone, adjacent to and east of Parking Lot 36 (in what was previously referred to as "the Kinross Building").

This site (900 Weyburn Place North) is currently developed with Warren Hall, which houses various office uses and research facilities, and the Hillblom Islet Research Center (refer to the site survey provided on Figure 3-5). Warren Hall, built in 1961, is a 2-level, approximate 102,205-gsf building with a partial basement that is U-shaped in plan and designed in the Midcentury Modern style. The Hillblom Islet Research Center was added to the southeastern portion of the site in 2004 (approximately 7,200 gsf). On-site surface parking lots serve these uses. These buildings would be demolished to accommodate the proposed Project.

As further discussed in Section 4.4, Cultural Resources/Tribal Cultural Resources, Warren Hall is eligible for listing in the National Register of Historic Place (NRHP) and California Register of Historical Resources (CRHR) because (1) it is the best representation of UCLA's involvement with the Atomic Energy Commission's biomedical research and its contribution to the development of the nuclear medicine field and (2) it embodies the distinctive characteristics of the Midcentury Modern architectural style.

The site slopes to the southwest with site elevation ranging from approximately 390 feet above msl in the northeast corner to 360 feet above msl in the southwest corner. Surface water runoff sheet-flows along the existing ground surface toward the adjacent City streets and associated drainage infrastructure. Existing vegetation on and around the Warren Hall site consists of both native and ornamental trees, ornamental shrubs and ground cover, and turf grass. There are no naturalized areas, stream channels, or otherwise sensitive hydrologic or biological resources on the Warren Hall site. Refer to Section 4.3, Biological Resources, of this Draft SEIR, for a complete description of existing vegetation on this site. To the north, west, and south, three- to nine-level on-campus graduate student residential buildings surround Warren Hall. Weyburn Terrace is west of Warren Hall and separates the site from graduate student housing; landscaping and walking paths provide buffers between the site and housing to the north and south. To the east, an alley (Weyburn Place) separates the site from the rear of multi-family apartment complexes fronting Levering Avenue, a few of which are also owned by UCLA. Notably, the University-owned Margan Apartment building (discussed below) and Levering Faculty apartment building in the Bridge zone are adjacent to the northern portion of the site.

University Extension (UNEX) (Bridge zone)

This site is located in the Bridge zone at 10995–10997 Le Conte Avenue, in the northwest quadrant of the Le Conte Avenue/Gayley Avenue intersection and east of Levering Avenue. The Bridge zone, which contains approximately 5 acres of the 419-acre UCLA campus, forms a physical land connection between the main campus zones and the Southwest zone. In addition to the UNEX Building, this zone contains the Ueberroth Building, which houses various UCLA offices; Margan student apartments; and Levering Faculty apartment building. It should be noted that the Margan apartment building, is scheduled to be demolished in fall 2017. This site will be redeveloped with new undergraduate student housing and is expected to be completed in fall 2019.

Project Site Limits
Existing Features
Building
Electrical
Gas
Sewer
Storm Drain
Telephone
Utilities
Water

SIX STORY STUDENT RESIDENTIAL APARTMENT COMPLEX
WARREN HALL TWO STORY CONCRETE BUILDING
SINGLE STORY CONCRETE BUILDING
LARRY L. HILLBLOM ISLET RESEARCH CENTER SINGLE STORY STUCCO BUILDING
FOUR STORY STUDENT RESIDENTIAL APARTMENT COMPLEX
THREE STORY STUDENT RESIDENTIAL APARTMENT COMPLEX
WARREN HALL TWO STORY CONCRETE BUILDING
FOUR STORY STUDENT RESIDENTIAL APARTMENT COMPLEX
FIVE STORY STUDENT RESIDENTIAL APARTMENT COMPLEX
WEYBURN PL
WEYBURN PLACE
WEYBURN AVENUE
WEYBURN DR
VETERAN AVE

Warren Hall Site Survey

Figure 3-5

UCLA LRDP Amendment (2017) and Student Housing Projects

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This UNEX site encompasses approximately 1.0 acre and is currently developed with the 8-level (including partial ground level) approximate 93,204 gsf UNEX building constructed in 1971; a small parking lot; rear-yard retaining wall; and a service driveway (refer to the site survey provided on Figure 3-6). The building is seismically deficient and would be demolished to accommodate the proposed housing development. As further discussed in Section 4.4, Cultural Resources/Tribal Cultural Resources, the UNEX building is not eligible for listing in the NRHP or CRHR.

The elevation at this site ranges from approximately 340 feet above msl in the southeast corner to approximately 378 feet above msl at the top of the slope in the northern portion of the site. Surface water runoff sheet-flows along the existing ground surface generally to the south, diverting around the UNEX building, towards the adjacent City streets and associated drainage infrastructure. Existing vegetation on and around the UNEX site consists of ornamental trees and shrubs. There are no naturalized areas, stream channels, or otherwise sensitive hydrologic or biological resources on the UNEX site. Refer to Section 4.3, Biological Resources, of this Draft SEIR for a complete description of existing vegetation on this site. The site is surrounded by residential uses to the north (off-campus) and west (on- and off-campus), a gas station and other commercial uses in Westwood Village to the south, and on-campus uses in the Health Sciences zone to the east, including the Ueberroth building.

Drake Stadium (Central zone)

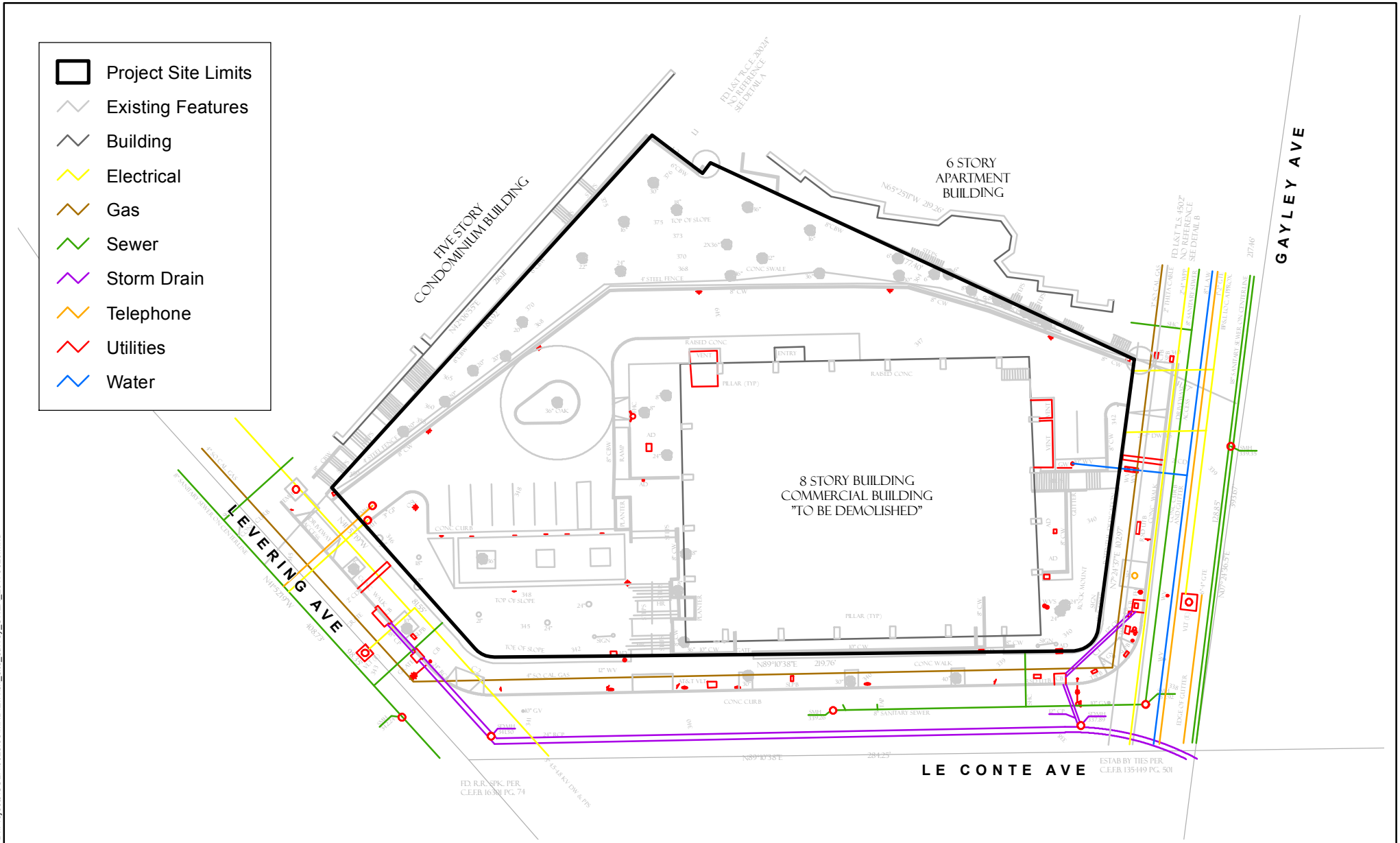
This site is located in the Central zone at Drake Stadium (340 Charles E. Young Drive North), south of Sunset Boulevard and east of Charles E. Young Drive West. The approximate 61.5-acre Central zone contains most of the campus recreational and athletic facilities and playing fields; it also includes student activity centers and underground parking. Drake Stadium is adjacent to and west of the Intramural Field and underground Parking Structure 7.

The Drake Stadium site encompasses approximately 1.3 acres and is the home of UCLA's soccer and track and field teams (refer to the site survey provided on Figure 3-7). Drake Stadium accommodates a 400-meter, 9-lane running track; a soccer field; and a grass field space. The grass infield is named Marshall Field. The stadium accommodates approximately 11,700 spectators. The concourse is located on the west side of the stadium.

The elevation at the concourse is approximately 420 feet above msl. There is an existing landscaped area along the length of the concourse that slopes up from the concourse to Charles E. Young Drive West (the elevation ranges from approximately 420 feet to 442 feet above msl). Surface water runoff sheet-flows along existing impervious surfaces to the adjacent landscape pervious areas.

Existing vegetation on and around the Drake Stadium site consists of both native and ornamental trees as well as ornamental shrubs. There are no naturalized areas, stream channels, or otherwise sensitive hydrologic or biological resources on the Drake Stadium site. Refer to Section 4.3, Biological Resources, of this Draft SEIR for a complete description of existing vegetation on this site.

To the northwest, west, and southwest, three- to ten-level on-campus student residential buildings and commons are present across Charles E. Young Drive West. Straus Stadium and the Acosta Training Center are located to the south beyond Bruin Walk. To the north, a landscape buffer and off-campus, single-family residences are located across Sunset Boulevard.



UNEX Site Survey

Figure 3-6

UCLA LRDP Amendment (2017) and Student Housing Projects

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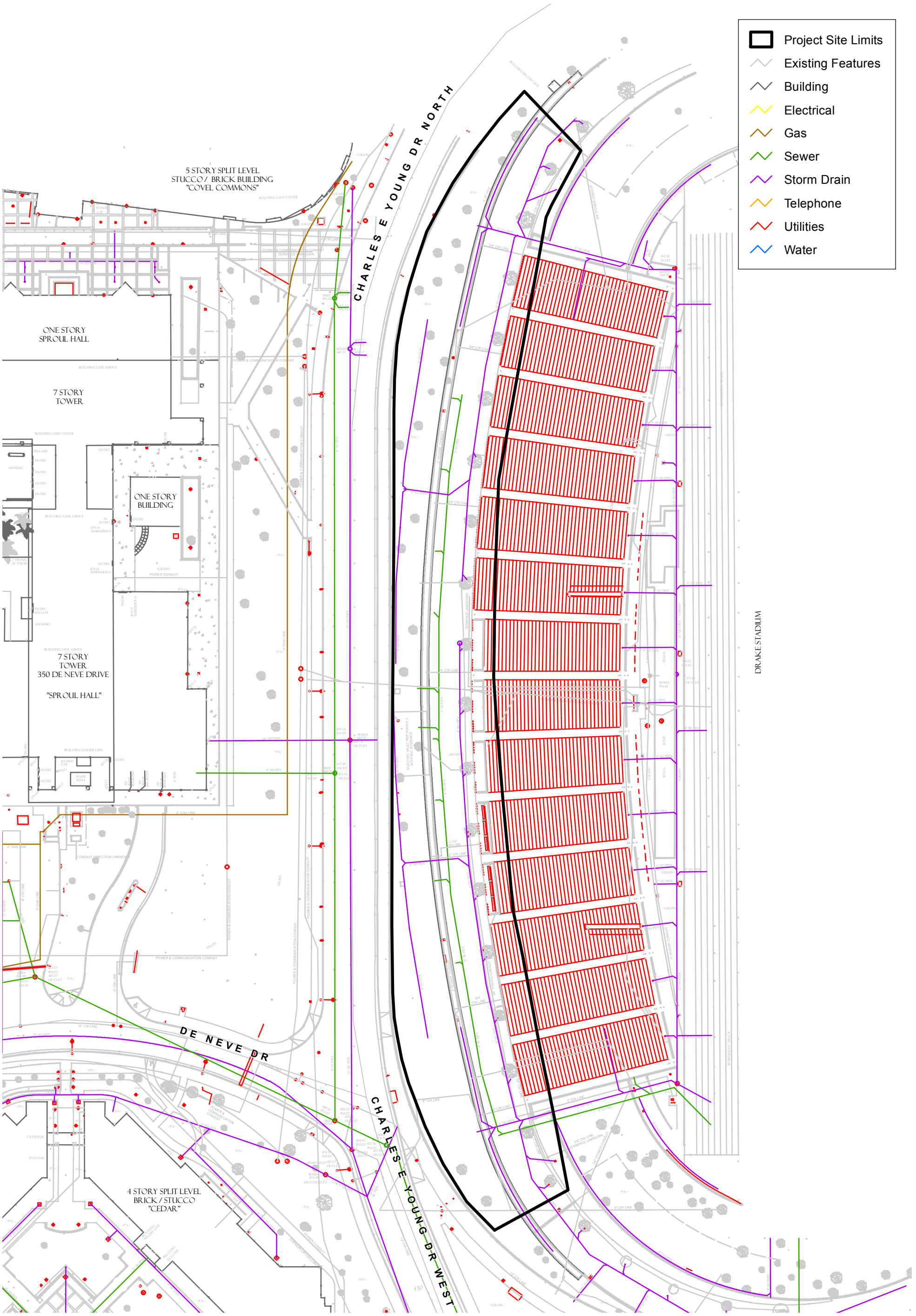

Drake Stadium Site Survey

Figure 3-7

UCLA LRDP Amendment (2017) and Student Housing Projects

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3.5 PROPOSED STUDENT HOUSING PROJECT CHARACTERISTICS

UCLA proposes to develop on-campus student housing on five sites in various campus zones, as described above. As shown in Table 3-1, the proposed housing development would total approximately 1,715,000 gsf of new building space, and would accommodate up to 6,900 beds. Development of the proposed student housing projects would require demolition of the existing buildings at the Lot 15, Warren Hall, and UNEX sites, totaling approximately 215,000 gsf, resulting in a potential net increase of 1,500,000 gsf of housing on campus.

TABLE 3-1
PROPOSED STUDENT HOUSING PROJECTS
MAXIMUM SQUARE FOOTAGE AND BED COUNT SUMMARY

Housing Site	Maximum Gross Square Feet	Maximum Bed Count[d]
Lot 15	353,000[a]	1,800
Warren Hall	650,000[b]	2,350
UNEX	350,000[c]	1,350
Bradley	122,000	600
Drake Stadium	240,000	800
Total	**1,715,000**	**6,900**

[a] Net increase of 341,000 gsf with demolition of the 2 existing Ornamental Horticulture buildings at the Lot 15 site (12,000 gsf).
[b] Net increase of 540,500 gsf with demolition of the existing buildings at the Warren Hall site (109,500 gsf).
[c] Net increase of 256,500 gsf with demolition of the existing UNEX building (93,500 gsf).
[d] This includes all undergraduate beds except for the Warren Hall site, which would include up to 488 graduate student beds.

The following key physical components of the proposed housing projects are described below:

- Residential and Support Uses
- Vehicular Circulation and Parking
- Landscape, Hardscape, and Exterior Lighting
- Sustainable Design Features
- Utility Infrastructure
- Construction Activities

3.5.1 RESIDENTIAL AND SUPPORT USES

The proposed development at each site would consist of residential and associated support uses. As identified in Table 3-1, with the exception of the Warren Hall site, which would also provide graduate student beds, each of the proposed housing projects would provide only undergraduate beds. For purposes of analysis it is assumed that the first three sites to be developed would include the Lot 15, Warren Hall, and UNEX sites; based on the ability to maximize the use of limited land resources and develop the proposed housing in timely manner. These sites would be available between fall 2021 and fall 2022. It is estimated that development at the Bradley and Drake Stadium sites would be completed by 2025.

Descriptions of the proposed buildings and uses, as well as physical features unique to each housing site are provided below. However, it should be noted that the proposed housing development would be implemented in accordance with the UCLA Physical Design Framework (UCLA 2009b) which, among other purposes, describes the physical design standards that guide new development to enhance the unique campus aesthetic within the constraints of a fully developed campus. Notably, the architecture of the proposed buildings would maintain continuity with UCLA campus architecture as appropriate to the context and materials of the existing built environment of each development site. The consistency of the proposed housing projects with the UCLA Physical Design Framework is further discussed in Section 4.9, Land Use and Planning, of this Draft SEIR.

Further, the proposed buildings would be designed and constructed in compliance with applicable requirements of the California Building Code and *California Health and Safety Code* (Sections 13000 et seq.), including requirements pertaining to fire protection systems. Specifically, fire sprinklers, fire alarm systems, emergency lighting, emergency response notification systems, and illuminated signage would be installed. An electronic card key security system would provide secure access to each housing development including, but not limited to, pedestrian entries, buildings, outdoor areas, and entry doors for each room.

Lot 15 Site

The Lot 15 site would accommodate up to 1,800 undergraduate beds. It is expected that the beds would be provided in a combination of triple rooms, Resident Assistant (RA) rooms, on-site Resident Hall Directors, and faculty-in-residence apartments.

The conceptual site plan for Lot 15 is provided on Figure 3-8. An aerial perspective of these buildings demonstrating the height and massing in relation to surrounding uses is presented in Figure 3-9. Two mid-rise buildings totaling approximately 353,000 gsf would be constructed; the buildings would be 8- and 10-levels (refer to Table 3-2). The southern building would also have a partial subterranean level for housing maintenance storage and, potentially, housing maintenance offices.

TABLE 3-2
LOT 15 SITE
BUILDING CHARACTERISTICS

Building	Number of Levels	Building Type[a]	Maximum Building Elevation (above mean sea level)
Building 1 (North)	10	**Mid-rise**	601.0
Building 2 (South)	8[b]	**Mid-rise**	596.5

[a] Mid-rise buildings range from 46 to 75 feet.
[b] Does not includes a subterranean level.

The Lot 15 project building materials, exterior finishes, and colors would relate to the existing student housing structures to the east (e.g., Hedrick, Rieber). Building materials and finishes would include integral color stucco cladding; metal panel siding; pre-cast panels; expressed cast-in-place concrete stem walls; cementitious panel cladding; a commercial-grade, anodized aluminum sash; enameled sheet metal accent trims; and a low-slope membrane roof. Building materials for hardscape would include cast-in-place concrete with brick banding.

It is anticipated the following support uses would be provided at this site: vending food service (no dining facilities); spaces for various student activities (e.g., study space, flexible space, music

Source: Mithun 2017

Lot 15 Site – Conceptual Site Plan

Figure 3-8

UCLA LRDP Amendment (2017) and Student Housing Projects

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Source: Mithun 2017

Lot 15 – Aerial Massing Perspective

Figure 3-9

UCLA LRDP Amendment (2017) and Student Housing Projects

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practice/recording rooms, makerspace,[3] common living/lobby areas); mail room and laundry facilities.

Warren Hall Site

The Warren Hall site would accommodate up to 2,350 beds for both undergraduate and graduate students. It is expected that the beds would be provided in various apartment unit configurations.

The conceptual site plan for the Warren Hall site is provided on Figure 3-10. An aerial perspective of the proposed buildings is presented in Figure 3-11. Three mid-rise buildings totaling approximately 650,000 gsf would be constructed; the buildings would be 8 to 10 levels (refer to Table 3-3).

TABLE 3-3
WARREN HALL SITE
BUILDING CHARACTERISTICS

Building	Number of Levels	Building Type[a]	Maximum Building Elevation (above mean sea level)
Building 1 (West)	8	**Mid-rise**	~~509~~ 485
Building 2 (East)	10	**Mid-rise**	~~485~~ 509
Building 3 (South)	8	**Mid-rise**	480

[a] Mid-rise buildings range from 46 to 75 feet.

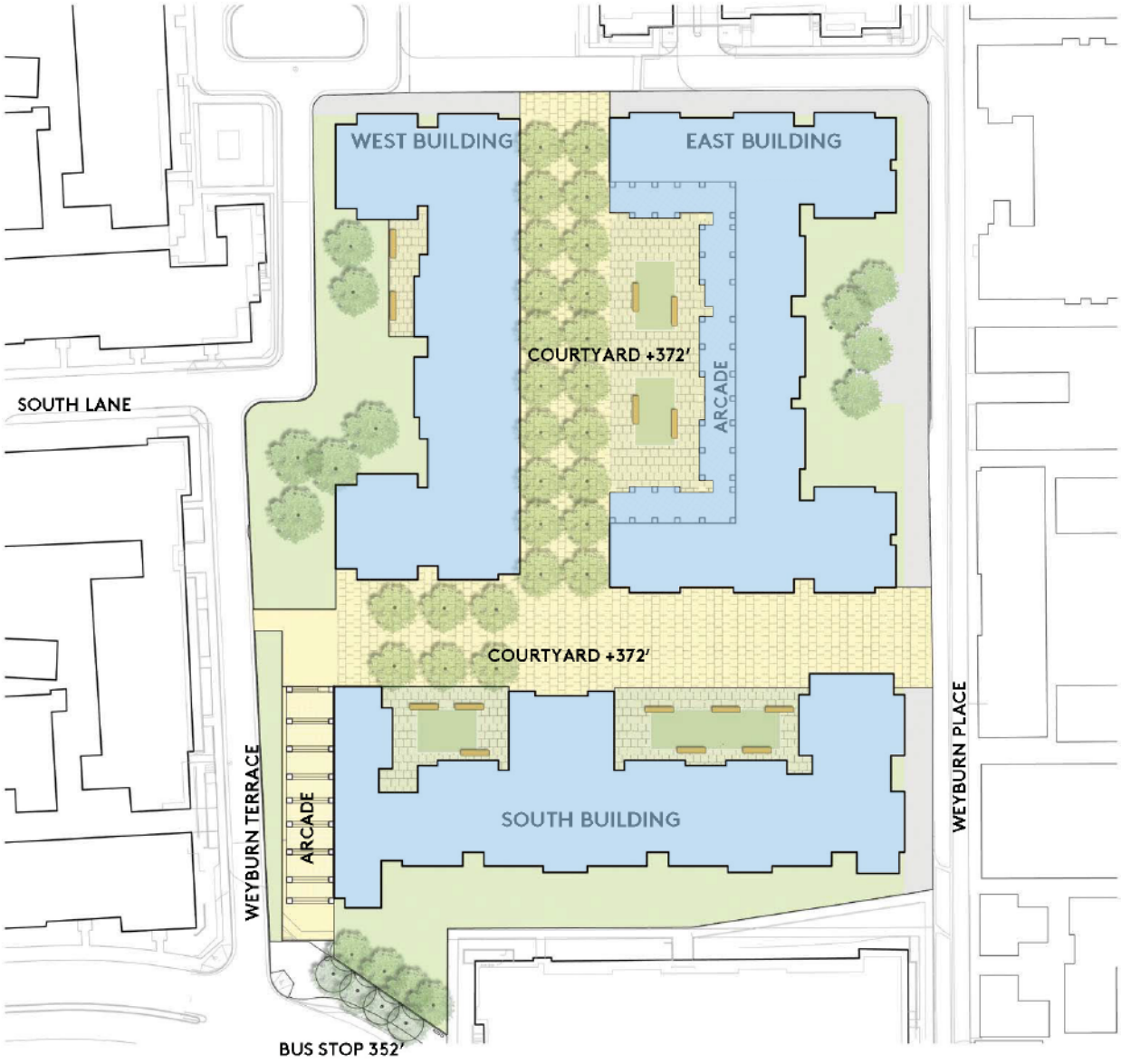
Warren Hall would be designed in the Southern California Mission Revival style, consistent with the architecture, materials, finishes and colors used in the surrounding Weyburn student housing structures. Accordingly, the building materials and finishes would include integral color stucco cladding; pre-cast concrete and ceramic tile trim and cladding; a commercial-grade, dark, anodized aluminum sash; enameled sheet metal accent trims; steel and enameled sheet metal ornamental details, balconies, and gutters/downspouts; and a Mission tile roof. Building materials for hardscape would include cast-in-place concrete with brick banding.

It is anticipated that the following support uses would be provided at this site: multi-purpose, common study and meeting spaces, grab-and-go café, mailroom, and laundry facilities. Development at this site has been designed to create opportunities for creative study and collaboration with residents of the adjacent graduate student community in Weyburn Terrace.

UNEX Site

The UNEX site would accommodate up to 1,350 upper-division undergraduate beds in various apartment unit configurations. The conceptual site plan for the UNEX site is provided on Figure 3-12. An aerial perspective of these buildings is presented in Figure 3-12. The building would be 350,000 gsf and configured with 9 and 20 stories (medium-, and high-rise, respectively) (refer to Table 3-4).

[3] A makerspace is a collaborative work space inside a school, library, or separate public/private facility for making, learning, exploring and sharing that uses high tech to no tech tools.



Source: Mithun 2017

Warren Hall Site – Conceptual Site Plan

Figure 3-10

UCLA LRDP Amendment (2017) and Student Housing Projects

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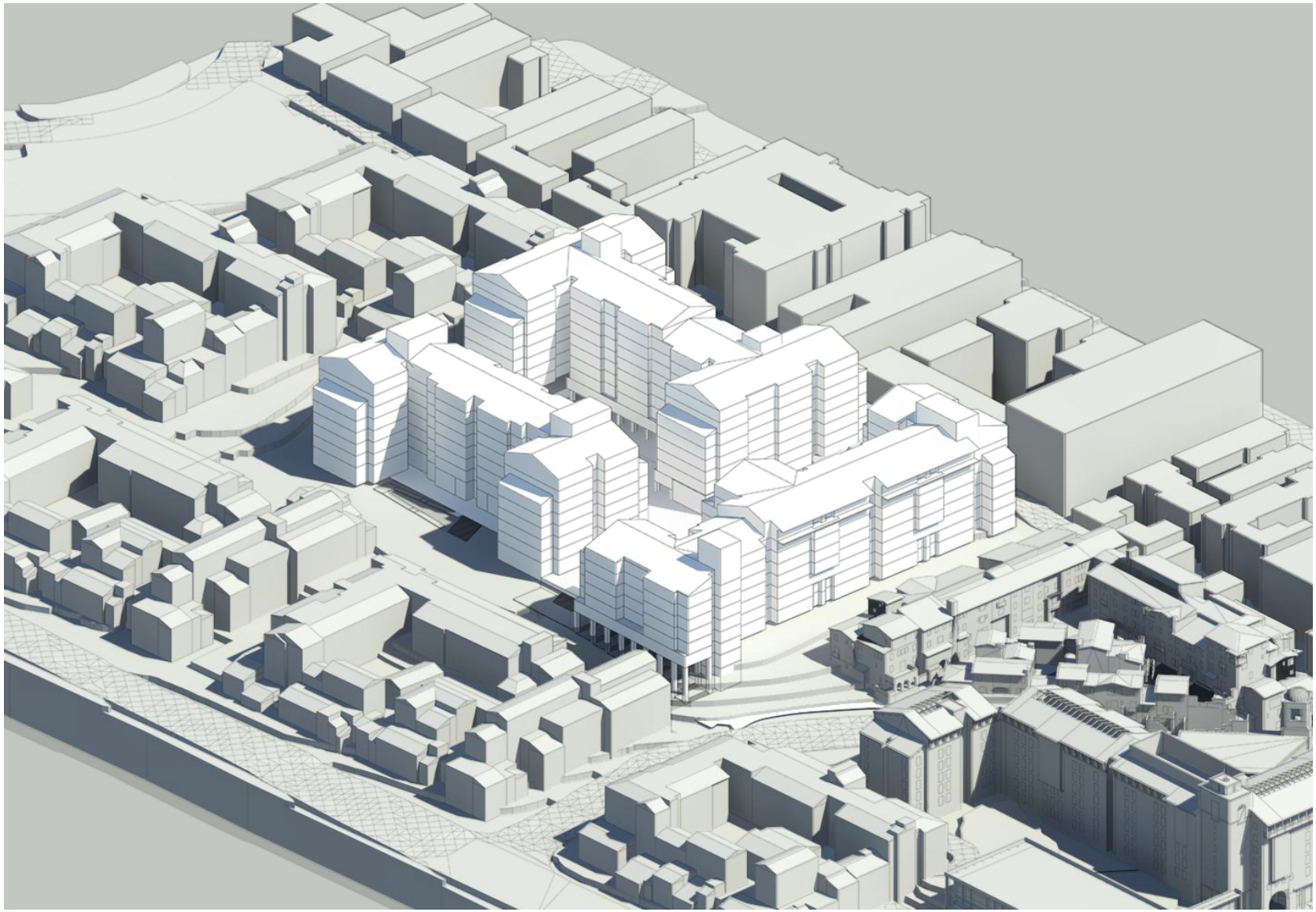

Source: Mithun 2017

Warren Hall Site – Aerial Massing Perspective

Figure 3-11

UCLA LRDP Amendment (2017) and Student Housing Projects

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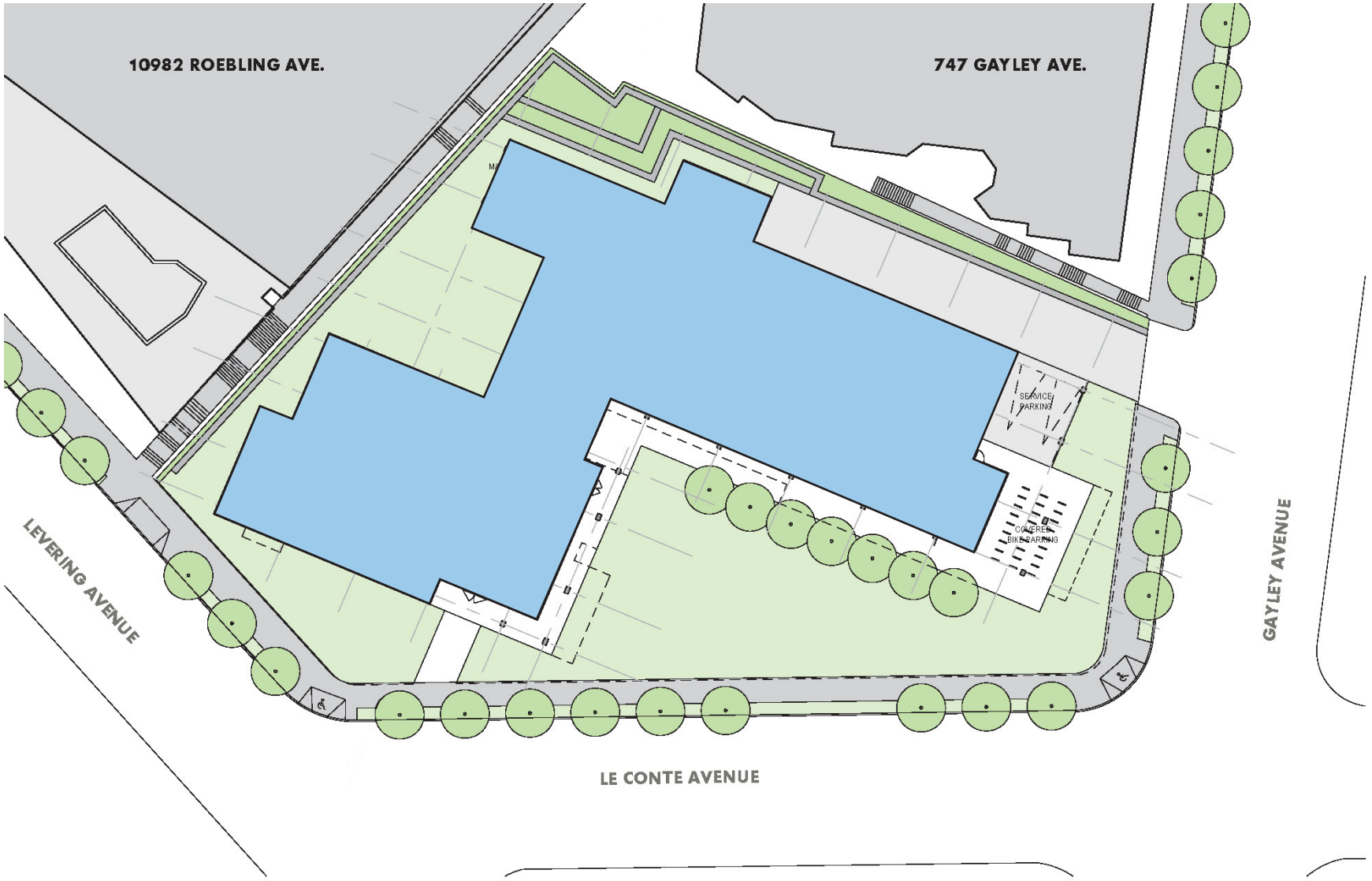

Source: Studios Architecture 2017

UNEX Site – Conceptual Site Plan

Figure 3-12

UCLA LRDP Amendment (2017) and Student Housing Projects

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Source: Studios Architecture 2017

UNEX Site - Aerial Massing Perspective

Figure 3-13

UCLA LRDP Amendment (2017) and Student Housing Projects

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TABLE 3-4
UNEX SITE
BUILDING CHARACTERISTICS

Building	Number of Levels	Building Type[a]	Building Elevation (above mean sea level)
Building 1	20	High-rise	565
	9	Mid-rise	439
[a] Mid-rise buildings range from 46 to 75 feet, and high-rise buildings are 76 feet and taller.			

The UNEX project is located at the intersection of Gayley, Le Conte, and Levering Avenues in the Bridge Zone of the UCLA campus. This site is in a transitional zone between the residential neighborhood to the northwest, the main Campus to the northeast, and Westwood Village and Wilshire Boulevard to the south. The design of this site would take its cues from all of these influencing neighborhoods and the Campus as a whole. Designed as one building, the visual massing is expressed in two integrated components: mid-rise and high rise. The building materials would include a combination of glass and metal panel curtainwall and storefront systems, fiber cement panel systems, integral color cement plaster, architectural grade exposed structural concrete; and a low-slope membrane roof. Building materials for hardscape would include cast-in-place concrete with brick banding.

It is anticipated that support uses at this site would include common study and meeting spaces as well as mail room and laundry facilities.

Bradley Site

The Bradley site would accommodate up to 600 undergraduate beds. It is expected that the beds would be provided in a combination of triple rooms and RA rooms. The conceptual site plan for the Bradley site is provided in Figure 3-14. An aerial perspective of these buildings is presented in Figure 3-15. Two mid-rise buildings totaling approximately 122,000 gsf would be constructed; the buildings would be 7 and 8 levels (with 1 partial subterranean level) (refer to Table 3-5). The proposed buildings at this site would be implemented in accordance with the UCLA Physical Design Framework and designed in context with the existing built environment.

TABLE 3-5
BRADLEY SITE
BUILDING CHARACTERISTICS

Building	Number of Levels	Building Type[a]	Building Elevation (above mean sea level)
Building 1 (East)	8	**Mid-rise**	467
Building 2 (West)	7	**Mid-rise**	467
[a] Mid-rise buildings range from 46 to 75 feet.			

It is anticipated that the following support uses would be provided at this site: dining, a makerspace, common study spaces, meeting spaces, and laundry facilities.

Drake Stadium site

The Drake Stadium site would accommodate up to 800 undergraduate beds. It is expected that the beds would be provided in a combination of triple rooms and RA rooms.

Source: Mithun 2016

Bradley Site – Conceptual Site Plan

Figure 3-14

UCLA LRDP Amendment (2017) and Student Housing Projects

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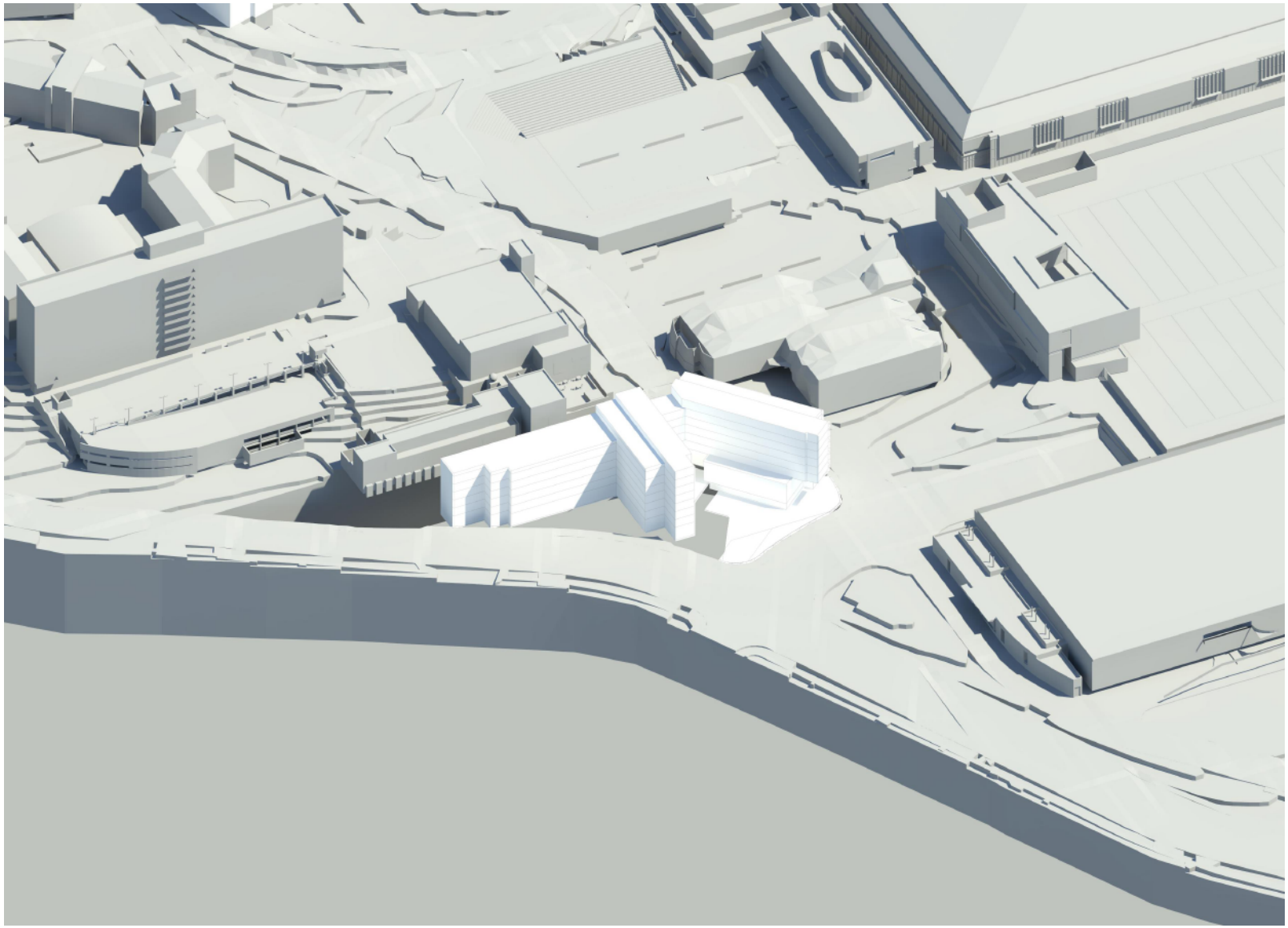

Source: Mithun 2017

Bradley Site – Aerial Massing Perspective

Figure 3-15

UCLA LRDP Amendment (2017) and Student Housing Projects

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The conceptual site plan for the Drake Stadium site is provided on Figure 3-16. An aerial perspective of these buildings is presented in Figure 3-17. The proposed mid-rise building would be approximately 240,000 gsf, would be up to 9 levels (refer to Table 3-6). The proposed building at this site would be implemented in accordance with the UCLA Physical Design Framework and designed in context with the existing built environment.

TABLE 3-6
DRAKE STADIUM SITE
BUILDING CHARACTERISTICS

Building	Number of Levels (above the Concourse)	Building Type[a]	Building Elevation (above mean sea level)
Building 1	9	**Mid-rise**	545
[a] Mid-rise buildings range from 45 to 75 feet.			

It is anticipated that support uses at this site would include common study spaces and laundry facilities. Development of this site would also provide an opportunity to accommodate additional space for athletic programs associated with the stadium and nearby athletic facilities.

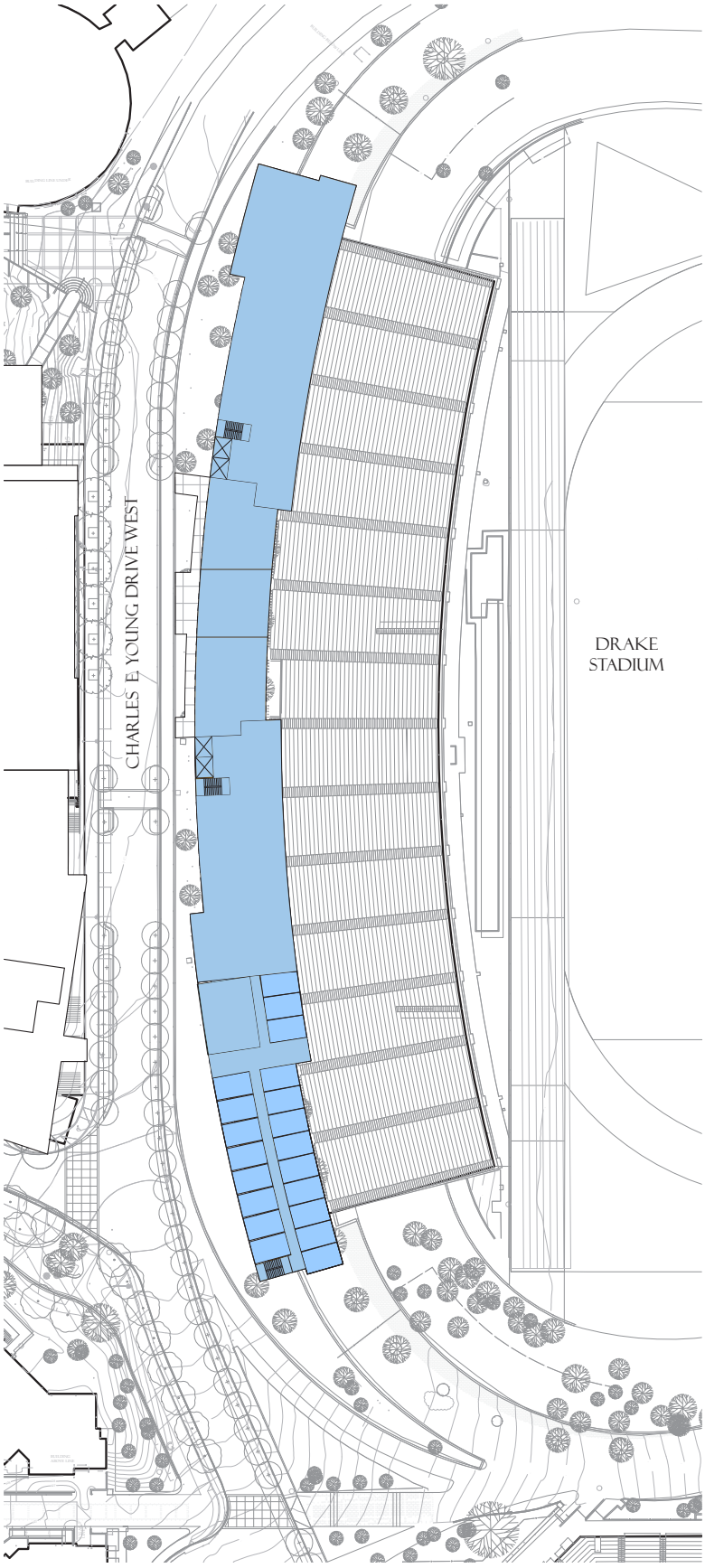
3.5.2 CIRCULATION AND PARKING

The proposed housing projects would include vehicular access and parking, as necessary, to comply with Americans with Disabilities Act (ADA) requirements and to accommodate the drop-off, pick-up, and service needs at each location. No student resident or staff parking would be provided at the proposed housing sites. Should student residents or staff need parking, parking permits would be available for spaces on the UCLA campus.

Pedestrian/bicycle pathways would create linkages that would draw people among residential buildings, community spaces, and the rest of campus while enhancing the indoor/outdoor relationships among the proposed and existing residences. The conceptual site plans for each site illustrate the proposed pedestrian/bicycle circulation systems. Bicycle parking areas would also be provided at each site.

The project sites are on the UCLA campus and, as such, project residents would have access to a full range of existing campus Transportation Demand Management (TDM) programs, including, but not limited to campus transit; accommodations for the use of other modes of transportation, including walking, bicycles, motorcycles, and scooters; the on-campus car share program; and use of UCLA's Commuter's Guide. Additionally, the proposed housing development has been designed to accommodate required emergency access, including for emergency response vehicles. Following is discussion of the circulation and parking features unique to each housing site.

- **Lot 15 Site.** Access to Lot 15 is currently provided from a driveway at De Neve Drive. This would continue to be the vehicular access point with implementation of the proposed housing development; no access would be provided from Veteran Avenue. Access roads/fire lanes extend around and through the Lot 15 site and serve the maintenance and storage facilities and associated parking at this site. Additionally, the existing road/fire lane along the eastern and southern site boundaries provides access to the Sycamore tennis courts and Southern Regional Library. This roadway would be maintained during construction and operation of the proposed housing development, and would also be used to access the parking for both the proposed housing development and the proposed housing maintenance and storage facility in the southern portion of the site. Additionally, the access



Source: Mithun 2017

Drake Stadium Site – Conceptual Site Plan

Exhibit 3-16

UCLA LRDP Amendment (2017) and Student Housing Projects

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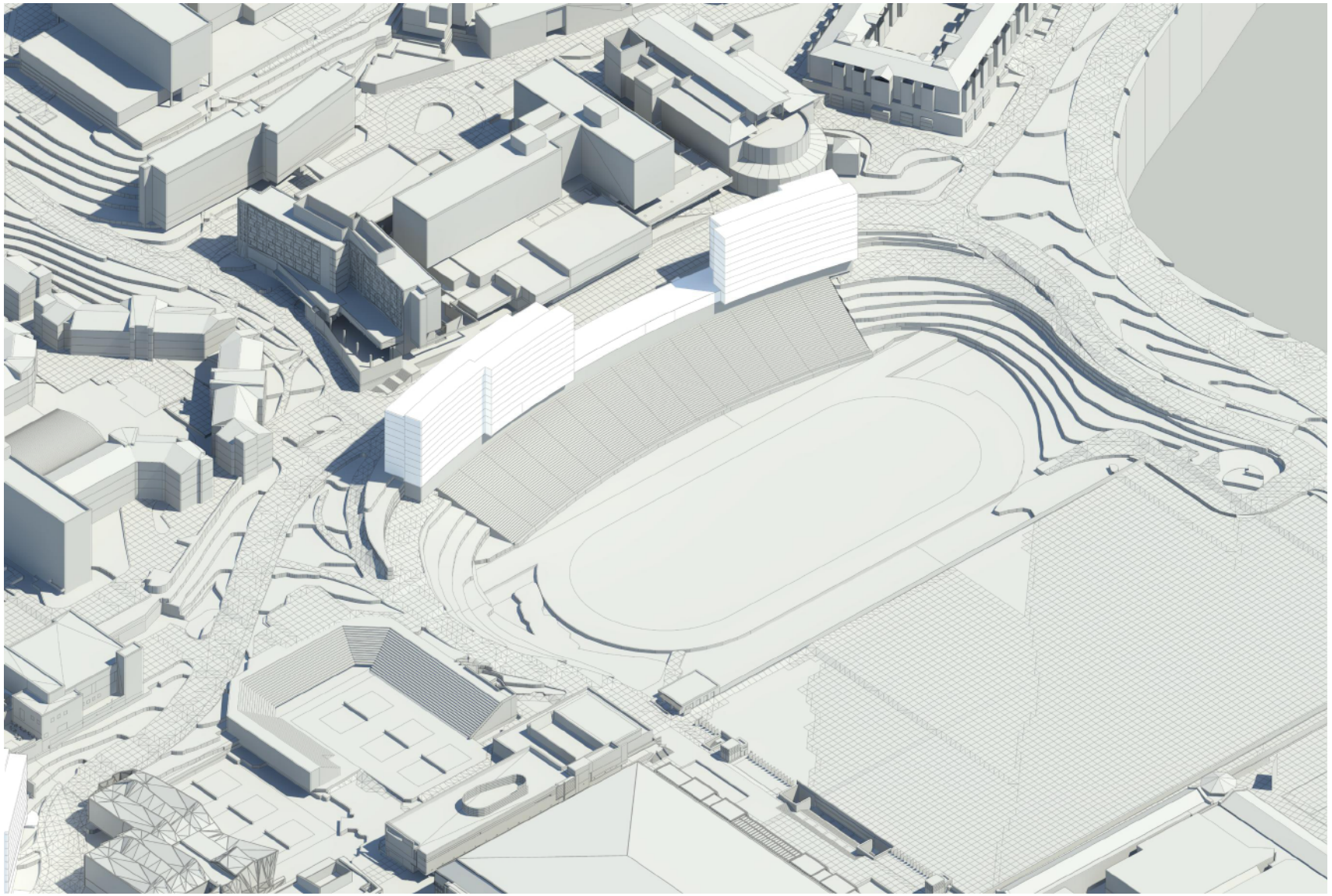

Source: Mithun 2017

Drake Stadium Site – Aerial Massing Perspective

Figure 3-17

UCLA LRDP Amendment (2017) and Student Housing Projects

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road along the northern portion of the site would be maintained for access to the storage area west of the site and a portion would serve as a fire lane (refer to Figure 3-8).

There are sidewalks along both sides of De Neve Drive near the Lot 15 site, and a striped on-street bikeway in the southbound direction. The direction of vehicular travel on De Neve Drive in this area is northbound and there are painted sharrows indicated shared use by vehicles and bicycles. Pedestrian and bicycle access to this site would be provided from existing sidewalks on De Neve Drive, and pathways for pedestrians and bicyclists would be provided throughout the site and with a pedestrian bridge connection to the street level on De Neve Drive.

Housing maintenance service vehicles displaced from Lot 15 would be relocated to other parking areas in the Northwest zone.

- **Warren Hall Site.** Access to Warren Hall is currently provided from Weyburn Place, which forms the northeastern boundary of the site. This roadway would also provide vehicular access to the proposed housing development.

  Pedestrian and bicycle access would be provided from various locations surrounding the site, and the circulation system would be designed to provide connectivity between the proposed buildings and residential buildings that surround the site (refer to Figure 3-10).

  There are 136 existing parking spaces provided at the Warren Hall site. Parking for faculty and staff displaced from these spaces would be re-assigned to other vacancies in the existing campus parking inventory.

  The bus turnout/bus pullout on the north side of Weyburn Avenue at the intersection with Weyburn Terrace would be widened so that the buses, when stopped, do not obstruct the drive lanes. The location of the curb ramp and traffic signal would remain in place. To facilitate the uses of the transit services, the paved waiting area would be enlarged as part of the proposed Project by re-grading the existing slope in the southern portion of the site. Seating and shade would be provided.

- **UNEX Site.** Access to the UNEX site is currently provided from Levering Avenue and Gayley Avenue. With implementation of the proposed housing development, vehicular access would be provided from a driveway at Gayley Avenue. This roadway would be used to access the designated loading area and University-vehicle only parking.

  There are sidewalks along Levering Avenue, Le Conte Avenue, and Gayley Avenue adjacent to the site that would facilitate bicycle and pedestrian access to the site; on-site pathways would connect to these sidewalks.

- **Bradley Site.** The Bradley site is currently undeveloped, and there is no existing vehicular access to the site. With implementation of the proposed housing development, vehicular access would be provided from a driveway at Charles E. Young Drive West, which would be used primarily for service vehicles.

  There are sidewalks along Gayley Avenue, Strathmore Drive, and Charles E. Young Drive West, which form the western, southern, and eastern boundaries of the site, respectively. Painted sharrows are provided along the south side Strathmore Drive, and along Gayley Avenue, adjacent to the site. Pedestrian and bicycle access would be provided on site and would connect to adjacent roadway and pedestrian facilities.

- **Drake Stadium Site.** Charles E. Young Drive North and Charles E. Young Drive West form the northern and western boundaries of the site; however, there is currently no direct vehicular access from these roadways to the site (concourse area). The site is accessed from various pedestrian pathways in the vicinity, including along these roadways and Bruin Walk, which is adjacent to and south of the site. In the vicinity of the site there are painted

sharrows along Charles E. Young West and the south side of Charles E. Young Drive North, and a striped on-street bikeway along the north side of Charles E. Young Drive North. Consistent with existing conditions, vehicular access would not be provided with the proposed housing development; however, pedestrian access would be provided on site and would connect to adjacent roadway and pedestrian facilities.

3.5.3 LANDSCAPE, HARDSCAPE, AND EXTERIOR LIGHTING

Implementation of the proposed Project would require the removal of the existing vegetation on site, including existing mature trees and ornamental vegetation within the construction impact boundaries at each site (refer to the discussion in Section 4.3, Biological Resources, of this Draft SEIR). At each site, one new tree would be provided for every one mature tree removed, and two trees would be provided for each protected tree removed (consistent with the City of Los Angeles Protected Tree Ordinance No. 177404). Relocating and/or protecting mature trees in place as part of the proposed 2008 NHIP would also occur to the extent feasible in order to retain the aesthetic value of the larger mature trees.

While the proposed Project's landscape design remains in conceptual phase, the landscape plan would incorporate tree replacement, as described above as well as installation of shrubs and ground cover around all the proposed new buildings and adjacent areas. Landscape design would ensure continuance of the vegetated buffer UCLA maintains, including along its western and northern boundaries. Specifically, the vegetated buffer along Veteran Avenue (west of the Lot 15 site) and along Sunset Boulevard (north of the Drake Stadium site) would be maintained.

Exterior lighting would be provided for pedestrian safety and site security. Energy efficient light-emitting diode (LED) signs would be provided at exits, stairwells, along the paths of egress on every floor, and where required by code. It should be noted that the proposed structures would be designed to minimize exterior lighting, while still meeting requirements for safety and security. Notably, for the Lot 15 site, exterior lighting would be minimized on west-facing elevations, to the extent possible.

3.5.4 SUSTAINABLE DESIGN FEATURES

The proposed housing developments would comply with the UC Policy on Sustainable Practices and Guidelines and would adopt the principles of energy efficiency and sustainability to the fullest extent possible, consistent with budgetary constraints and regulatory and programmatic requirements. Leadership in Energy and Environmental Design (LEED®) is a green building rating system that contains prerequisites and credits in five areas: (1) environmentally sensitive site planning; (2) water conservation; (3) energy efficiency; (4) conservation of materials and resources; and (5) indoor air quality. A minimum standard of a LEED "Silver" New Construction (NC) rating has been established for applicable UCLA projects, including the proposed Project. However, the proposed housing developments would be designed in an attempt to surpass this. The proposed housing developments would also comply with California Green Building Standards Code (CALGreen) Tier 2 voluntary measure requirements and would participate in the Savings by Design building performance incentive program administered by public energy utility under the auspices of the California Public Utilities Commission. The design, construction, and operation of the proposed Project would include a series of green building strategies under development, along with mandatory strategies required by CalGreen and UC Policy on Sustainable Practices, to exceed California Building Code Title 24 energy efficiency requirements by 20 percent or greater and would comply with applicable UC Policy goals, as further discussed in Section 4.6, Greenhouse Gas Emissions, of this Draft SEIR.

3.5.5 UTILITY INFRASTRUCTURE

As shown in the site surveys presented in Figures 3-3 through 3-7, there are existing utility infrastructure systems available on and near the project sites to serve the proposed housing projects. Implementation of the development at each site would require installation of new onsite utility infrastructure to connect the proposed structures to existing utility lines. Additionally, as described below, upgrades to existing wastewater conveyance system are required to serve the proposed development at the Lot 15, Warren Hall, Drake, and Bradley sites. The anticipated physical impact area for installation of on- and off-site utility infrastructure is within the impact area identified for the project sites (refer to Figures 3-18 through 3-21 provided in the discussion of Construction Activities in Section 3.5.6, of this Draft SEIR). Following is a description of the existing infrastructure serving the sites and the conceptual plan for proposed infrastructure. The final sizing and design of utility infrastructure would occur during final building design. It should also be noted that the proposed housing projects would not be served by the UCLA cogeneration facility (Energy Systems Facility).

Lot 15 Site

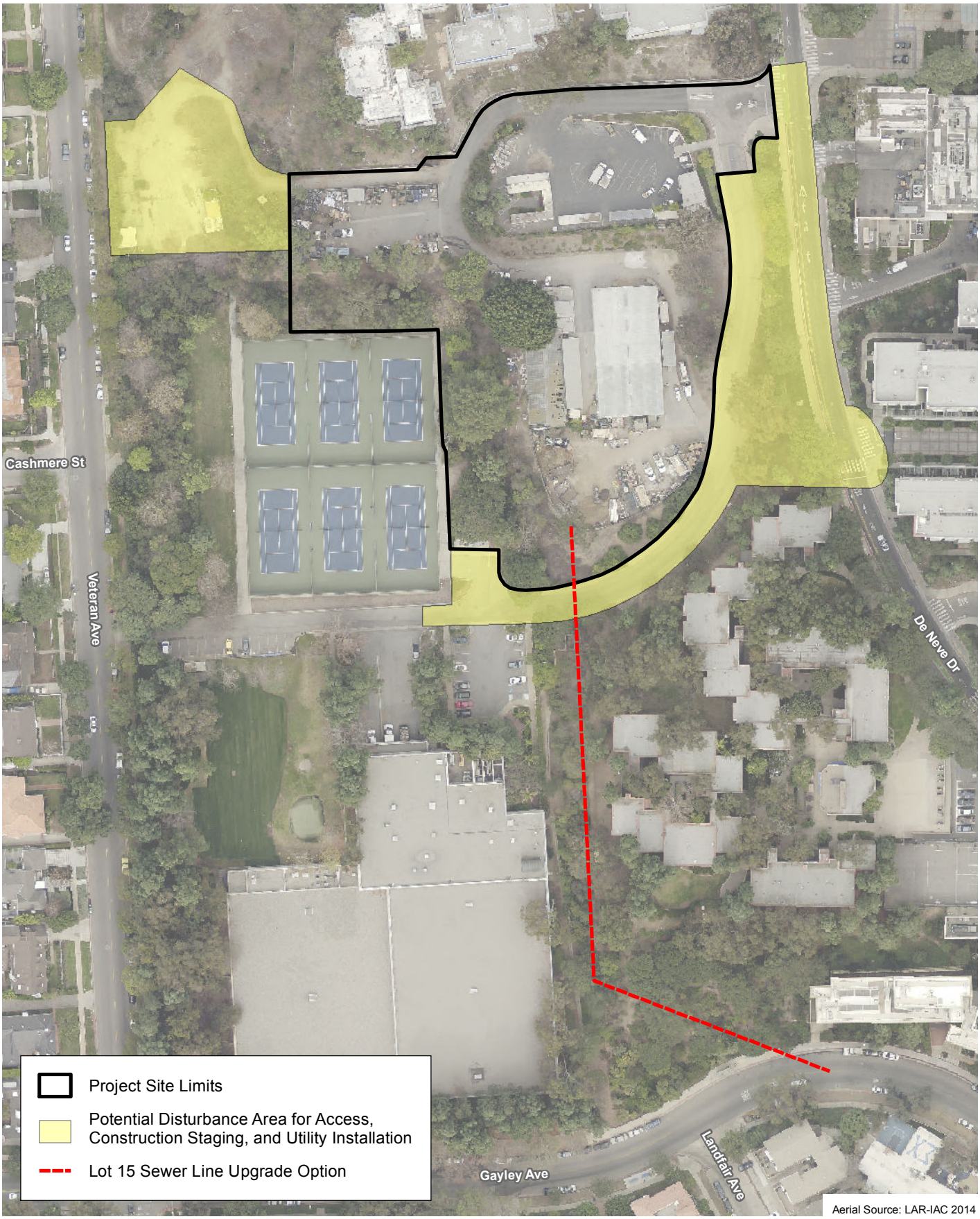
- **Water.** There is an existing 8-inch water main on De Neve Drive, which branches off to an 8-inch main in the access road/fire lane that runs along the east and south boundaries of the site. There is an existing fire hydrant on the west side of the access road/fire lane, east of the proposed facilities storage building.

  Domestic and irrigation water needs at this site would be served by new 8-inch connections to the 8-inch main in De Neve Drive. Eight-inch fire back flow preventers would serve the sprinkler systems and a new fire hydrant. Six-inch domestic back flow preventers would serve the domestic water systems.

  No new or expanded water lines, beyond the installation of onsite facilities that would connect to existing water lines would be required.

- **Sewer.** There are currently no sewer mains on De Neve Drive, or the adjacent access road/fire lane. There is an existing sewer manhole which is the start of an 8-inch main located in the fire lane adjacent to the southeast corner of the Sycamore Tennis Courts. This line continues west and connects to the City of Los Angeles (LA Sanitation) 10-inch main in Veteran Avenue. There is an existing 4-inch sewer line serving the Housing Maintenance Building which connects to the manhole adjacent to the Sycamore Tennis Courts; however, this line is damaged and not expected to be salvageable. There is also an existing 8-inch sewer line serving Hitch Suites which runs south of the site, continues west, and connects to the 10-inch LA Sanitation main in Veteran Avenue, which becomes a 12-inch sewer line at Veteran and Weyburn Avenues. Due to capacity issues in the 12-inch line south of the Lot 15 connection to the City's sewer system, the 12-inch main in Veteran Avenue would be upgraded to an 18-inch main, as part of the project.

  The proposed buildings would connect to the existing 8-inch line serving the Hitch Suites. Based on monitoring data, this line has adequate capacity to serve the proposed development. The portion of the existing 8-inch sewer line under the proposed building would be relocated north of the building limits (approximately 200 linear feet). An option for providing service to this site is to install a 4- to 6-inch sewer line between the existing Southern Regional Library and the Saxon Suites. This line would connect all three buildings to an existing manhole on Gayley Avenue and the existing 8-inch sewer line. Monitoring studies show this sewer line also has capacity for the project. The construction impact map for the Lot 15 site (Figure 3-18 depicts the sewer line connection options).



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Lot 15 Site – Construction Impact Limits

Figure 3-18

UCLA LRDP Amendment (2017) and Student Housing Projects

N W E S

125 62.5 0 125 Feet

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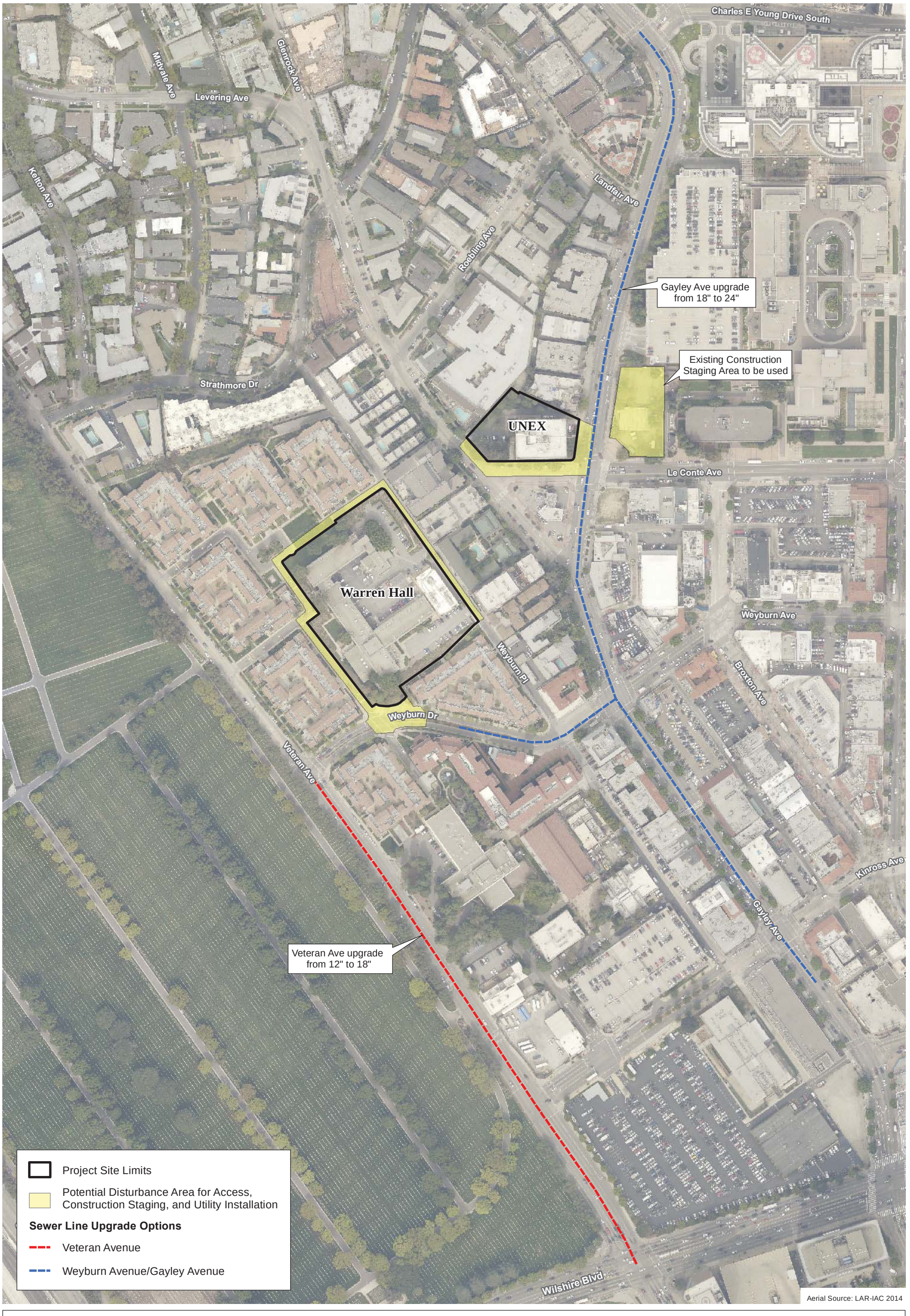

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Warren Hall, UNEX Sites and Sewer Line Upgrades – Construction Impact Limits

Figure 3-19

UCLA LRDP Amendment (2017) and Student Housing Projects

N W E S

240 120 0 240 Feet

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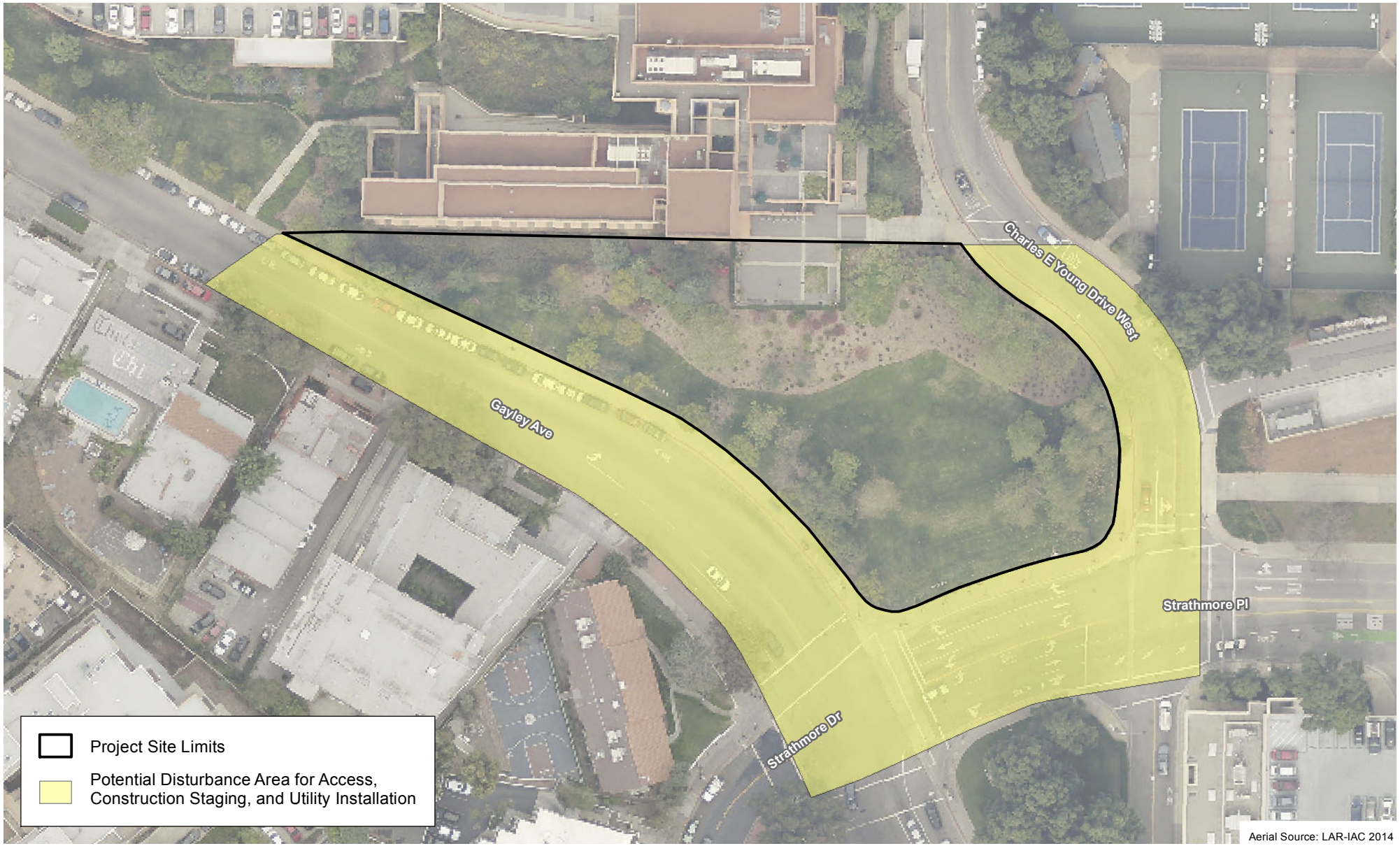

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Bradley Site – Construction Impact Limits

Figure 3-20

UCLA LRDP Amendment (2017) and Student Housing Projects

N W E S

75 37.5 0 75 Feet

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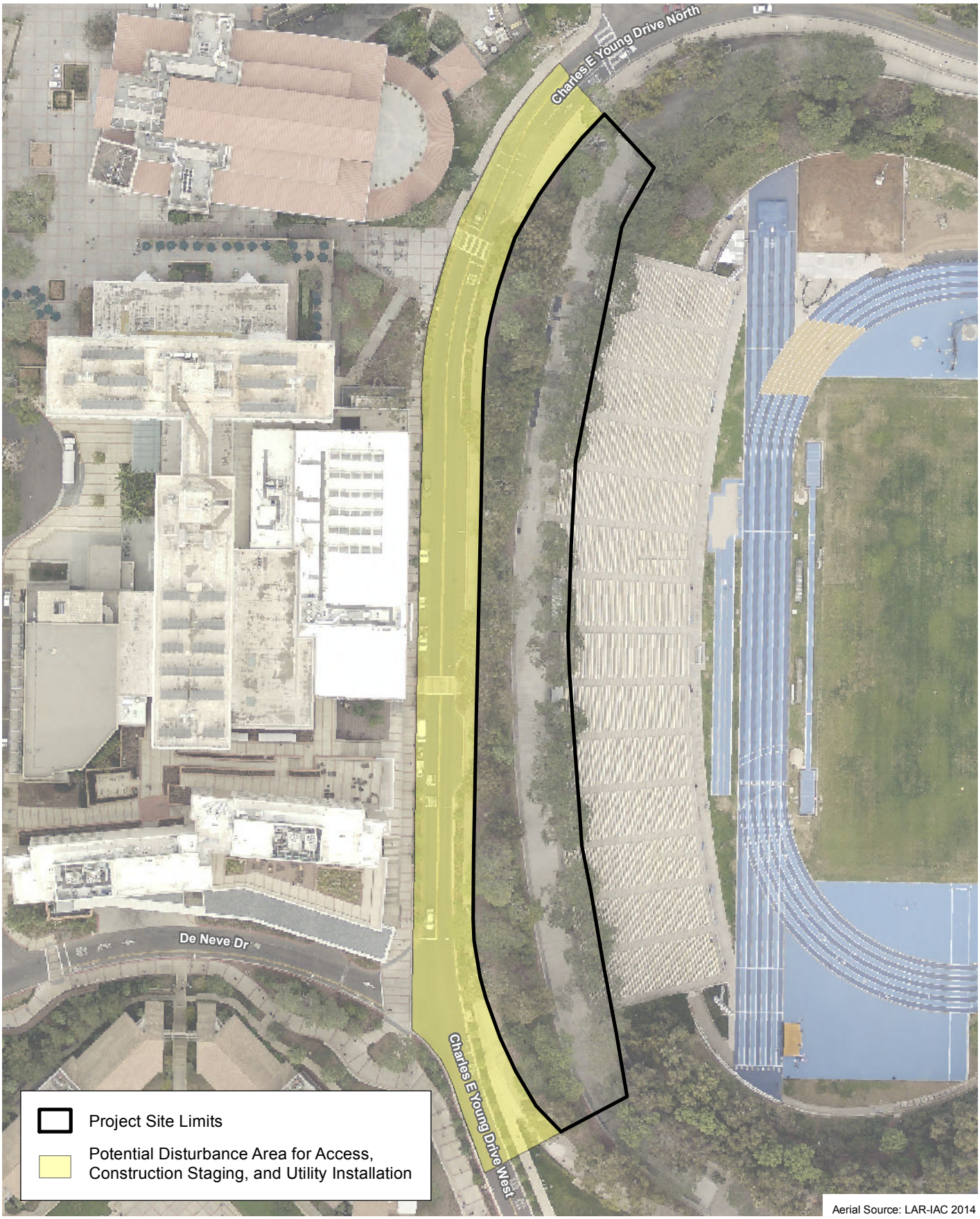

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Drake Stadium Site – Construction Impact Limits

Figure 3-21

UCLA LRDP Amendment (2017) and Student Housing Projects

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- **Storm Drain and Water Quality.** There is an existing 24-inch storm drain main in De Neve Drive, and an existing catch basin on the north side of the access road/fire lane, located at the south end of the project site. This catch basin is the start of a 12-inch storm drain main that runs west and connects to an existing 81-inch City of Los Angeles storm drain main in Veteran Avenue.

  Roof runoff would be collected and sent to one of two capture and reuse rainwater cisterns. A pretreatment hydrodynamic separator manhole is required upstream of each cistern. The cisterns would connect via mechanical pump skid units to the drip irrigation system. Preliminary sizing based on current City of Los Angeles Low Impact Development (LID) storm water treatment requirements, and assuming that site hardscape would be pervious/permeable pavement and not need to be treated, indicates an approximately 11,000 gallon tank would be needed to serve the north building, and an approximately 15,500 gallon tank would be needed to serve the southern building. This volume and treatment method satisfies the latest City of Los Angeles Low Impact Development standards. If impervious hardscape is used, runoff would need to drain into the cisterns, and the capacity would need to be increased. Actual sizing of the cisterns would be conducted during final design. However, the required cisterns would be within the construction impact limits established for this site.

  Overflow from the cisterns along with site drainage would be conveyed with an onsite 12-inch storm drain line and connect to the existing catch basin south of the project site. No new or expanded storm drain lines, beyond the installation of on-site facilities that would connect to existing storm drain lines would be required.

- **Dry Utilities and Telecommunications.** There are existing electric, natural gas and telecommunications facilities within and adjacent to the project site (refer to the site survey provided in Figure 3-3). The proposed buildings would be served by connections to these existing facilities. No new or expanded utility infrastructure, beyond the installation of onsite facilities that would connect to existing utility lines would be required.

  Additionally, an outdoor generator (estimated 650 kilowatts [kW]), domestic boiler (estimated 13,500 MBH [thousand British Thermal Units]), and heating boiler (estimated 12,100 MBH) would be installed to serve the proposed uses. The actual sizing of these facilities would be determined during final design.

Warren Hall

- **Water.** There is an existing 12-inch water main in the east/west drive lane north of the site that runs along Weyburn Terrace and South Lane. There are existing fire hydrants on the corner of South Lane and Weyburn Terrace, north of the site between the Weyburn Terrace turnaround and private drive lane, and two hydrants on Weyburn Place along the project frontage.

  Irrigation needs, proposed fire sprinkler building connections, and any required onsite hydrant(s) would be served with a new 8-inch connection to the 12-inch main in the private drive lane north of the site. Proposed domestic water building connections would be served with a new 6-inch connection to the 12-inch main in the private drive lane north of the site. Both services would require onsite backflow preventers. These connection points are adjacent to the propose fire lane entrance to the site, so backflows and other appurtenances would be accessible. No new or expanded water lines, beyond the installation of on-site facilities that would connect to existing water lines would be required.

- **Sewer.** There is an 8-inch sewer main that starts north of the site in the east/west private drive aisle. The sewer flows west and turns south at the turnaround down Weyburn Terrace and turns west at South Lane and ultimately connects to the LA Sanitation 12-inch

sewer main in Veteran Avenue. There is a separate 8-inch sewer main on Weyburn Avenue, which also connects to the LA Sanitation 12-inch main in Veteran Avenue.

The proposed buildings would connect to the existing 8-inch sewer line in Weyburn Terrace. As part of the project, the 12-inch main in Veteran Avenue would be upgraded to an 18-inch main, and the existing 8-inch lines from the existing Weyburn Terrace development would be reconnected to the upgraded line (refer to Figure 3-19). A potential option to provide sewer service to this site would involve the installation of an eastern extension of the 8-inch Weyburn Avenue sewer line from its current terminus to a connection at Gayley Avenue, and an upgrade of the existing 18-inch main in Gayley Avenue to a 24-inch main (generally from Charles E. Young Drive to just south of Kinross Avenue).

- **Storm Drain and Water Quality.** There is an 18-inch storm drain line that starts at the west end of the private drive lane north of the project site. This line continues west to the turnaround, south at Weyburn Terrace, and west at South Lane where it ultimately connects to the City of Los Angeles storm drain main in Veteran Avenue. There is a separate 12-inch storm drain main on Weyburn Terrace that begins south of South Lane, runs south to Weyburn Avenue where it flows west and ultimately connects to the City of Los Angeles main in Veteran Avenue.

  Roof runoff would be collected and sent to one of two capture and reuse rainwater cisterns, which would operate as described above for the Lot 15 site. A pre-treatment hydrodynamic separator manhole would be installed upstream of each cistern. Preliminary cistern sizing assuming site hardscape would be pervious/permeable pavement and not need to be treated indicates a 28,300 gallon tank would be needed to serve the two northern buildings, and an 18,500 gallon tank would be needed to serve the southern building. This volume and treatment method satisfies the latest City of Los Angeles Low Impact Development standards.

  Overflow from the cisterns along with site drainage would be conveyed west to connect to Weyburn Terrace which would be picked up by the 12-inch main that continues west on Weyburn Avenue. No new or expanded storm drain lines, beyond the installation of on-site facilities that would connect to existing storm drain lines would be required.

- **Dry Utilities and Telecommunications.** There are existing electric, natural gas and telecommunications facilities within and adjacent to this site. The proposed buildings would be served by connections to these existing facilities. It should be noted that the proposed buildings at this site would be served by the existing transformer located at the Science and Technology Research Building and 12.4 kVA loop that currently serves Warren Hall and the Weyburn Terrace Phase 1 housing, and extends to the existing UNEX building. No new or expanded utility infrastructure, beyond the installation of onsite facilities to connect to existing utility lines would be required.

  Additionally, an outdoor generator (estimated 750 kW), domestic boiler (estimated 19,900 MBH), and heating boiler (estimated 12,100 MBH) would be installed to serve the proposed uses. The actual sizing of these facilities would be determined during final design.

UNEX Site

- **Water.** The existing 8-inch water main in Gayley Avenue would supply the building with fire, domestic and irrigation water needs. If necessary, the existing 6-inch water main in Levering Avenue could also be used. Water pressure and flow test results from LADWP conducted for the existing 6-inch main running on Levering Avenue, indicate that a backflow prevention device would need to be installed for domestic, fire and irrigation water services. It is expected that the existing fire hydrant on Gayley Avenue would serve the site. No new or expanded water lines, beyond the installation of onsite facilities that would connect to existing water lines would be required.
- **Sewer.** The existing UNEX building is served by an 8-inch sewer main in Le Conte Avenue, along the southern site boundary, runs east and connects to an 8-inch sewer main in Gayley Avenue. Based on monitoring data, there is capacity in the Gayley Avenue 8-inch sewer main to accommodate the proposed housing project. Due to plumbing code requirements, a second 8-inch lateral connection to the Gayley 8-inch sewer main would be required. No new or expanded water lines, beyond the installation of onsite facilities that would connect to existing sewer lines would be required.
- **Storm Drain and Water Quality.** Storm water runoff from the site would be collected via catch basins and would be treated by flow-through planters before discharging through curb drains to the streets. City of Los Angeles storm drains are located in the roadways west, south, and east of the site. There is a 24-inch diameter storm drain line that begins at the curb on the east side of Levering Avenue along the southwestern site boundary, which runs south to Le Conte Avenue and continues east to Gayley Avenue, where it connects to a 63-inch-diameter City of Los Angeles storm drain line. Alternately, if needed to meet LID requirements, filtration planter boxes would be installed. In order to meet the LID requirements, 100 percent of the runoff from any of the proposed roofs would be directed to a planter box, and three-inches of mulch would be installed at the top of the planter box. Alternatively, the project could install an active system to capture and reuse storm water for irrigation on-site. Details of this option are under review and would be sized and located based on the proposed project and consistent with LID requirements. No new or expanded storm drain lines, beyond the installation of on-site facilities that would connect to existing storm drain lines would be required.
- **Dry Utilities and Telecommunications.** There are existing electric, natural gas and telecommunications facilities within and adjacent to this site. The proposed buildings would be served by connections to these existing facilities. It should be noted that the proposed buildings at this site would also be served by the existing transformer located at the Science and Technology Research Building and 12.4 kVA loop that currently extends to the existing UNEX building. No new or expanded utility infrastructure, beyond the installation of on-site facilities that would connect to existing utility lines would be required.

  Additionally, an onsite generator and boiler(s) would be installed to serve the proposed uses. It is expected one generator would be needed (estimated at 1,250 kW), and three boilers of equal size (estimated total of 5.6 MBtu); the existing boiler at the site would be reused. The actual sizing of these facilities would be determined during final design.

Bradley

- **Water.** There is an existing 8-inch water main in Gayley Avenue and 12-inch water line in Charles E. Young Drive West adjacent to this site that could supply the buildings with fire, domestic and irrigation water needs. There is an existing service line from the 8-inch water line in Gayley Avenue that passes through the northwest portion of the site to Bradley Hall. This line would either be protected in place or relocated to ensure continued service to Bradley Hall. No new or expanded water lines, beyond the installation of on-site facilities that would connect to existing water lines would be required.
- **Sewer.** The proposed buildings would connect to an existing 15-inch sewer line in Strathmore Drive, which is located on the south side of the site. Based on available monitoring data, there is capacity in the 15-inch sewer line to accommodate the project at the point of connection. However, based on monitoring data, the 18-inch sewer main that is downstream of the Bradley site, and would collect the added flows from the project, is above capacity. Therefore, the 18-inch sewer main in Gayley Avenue would be upgraded to a 24-inch main (generally from Charles E. Young Drive to just south of Kinross Avenue) to accommodate the project.
- **Storm Drain and Water Quality.** Existing storm drain infrastructure in and near this site includes a 42-inch-diameter storm drain line that extends from near the northeast corner of the site south through the site, curving to the southeast near the sidewalk in Strathmore Place and continuing to the southeast; and a storm drain grate at the curb near the Strathmore Place and Charles E. Young Drive West intersection that connects to a 12-inch-diameter storm drain pipeline that extends to the southeast. Existing storm drain lines that traverse the site would be protected in place or relocated, as appropriate. New onsite storm drain lines would be installed to serve the proposed housing project and would connect to the existing storm drain lines. BMPs would be implemented onsite in compliance with LID standards for post-construction design to manage both quantity and quality of storm water runoff. No new or expanded storm drain lines, beyond the installation of onsite facilities that would connect to existing storm drain lines would be required.
- **Dry Utilities and Telecommunications.** There are existing electric, natural gas and telecommunications facilities within and adjacent to this site. The proposed buildings would be served by connections to these existing facilities. No new or expanded utility infrastructure, beyond the installation of on-site facilities that would connect to existing utility lines would be required. Additionally, similar to the other sites, an onsite generator and boiler(s) would be installed to serve the proposed uses; the sizing of these facilities would be determined during final design.

Drake Stadium

- **Water.** There is an existing 8-inch water main in Charles E Young Drive West, which would supply the building with fire, domestic, and irrigation water needs. No new or expanded water lines, beyond the installation of on-site facilities that would connect to existing water lines would be required.
- **Sewer.** The proposed project would connect to an existing 12-inch sewer line in Charles E. Young Drive West, which is located on the west side of the site. Based on available monitoring data, there is capacity in the 12-inch sewer line to accommodate the project. However, based on monitoring data, the 18-inch sewer main that is downstream of the Drake Stadium site, and would collect the added flows from the project, is above capacity. Therefore, the 18-inch sewer main in Gayley Avenue would be upgraded to a 24-inch main

(generally from Charles E. Young Drive to just south of Kinross Avenue) to accommodate the project.

- **Storm Drain and Water Quality.** Existing storm drain infrastructure in and near this site includes 4-inch-diameter and 6-inch-diameter storm drain lines along the length of the concourse as well as 4-inch-diameter and 6-inch-diameter lines running laterally across the concourse to connect to a 4-inch-diameter line along the length of the vegetated slope. There is also a 33-inch-diameter storm drain pipeline located in Charles E. Young Drive West. Existing storm drain lines that traverse the site would be protected in place or relocated, as appropriate. New onsite storm drain lines would be installed to serve the proposed housing project and would connect to the existing storm drain lines. BMPs would be implemented onsite in compliance with LID standards for post-construction design to manage both quantity and quality of storm water runoff. No new or expanded storm drain lines, beyond the installation of onsite facilities that would connect to existing storm drain lines would be required.
- **Dry Utilities and Telecommunications.** There are existing electric, natural gas and telecommunications facilities within and adjacent to this site. The proposed buildings would be served by connections to these existing facilities. No new or expanded utility infrastructure, beyond the installation of on-site facilities that would connect to existing utility lines would be required. Additionally, similar to the other sites, an onsite generator and boiler(s) would be installed to serve the proposed uses; the sizing of these facilities would be determined during final design.

3.5.6 CONSTRUCTION ACTIVITIES

For purposes of analysis in this Draft SEIR, it is assumed that construction of the proposed housing at the Lot 15, Warren Hall, and UNEX sites would be initiated first. Demolition of the existing UNEX building is expected to occur in summer 2018, with building construction beginning in fall 2018. It expected that construction at the UNEX site would be complete in spring 2021. Demolition, site preparation, and grading activities at the Lot 15 and Warren Hall sites would be initiated in fall 2018, with building construction and utility installation being initiated in winter 2018/2019. It expected that construction at the Lot 15 site will be complete in spring 2021, and construction at the Warren Hall site will be complete in early (winter) 2022.

Construction activities at the Drake Stadium and Bradley sites are estimated to be initiated in fall 2022 and spring 2023, respectively, and be completed by summer 2025. Construction at these sites would not overlap with the construction activities at the Lot 15, Warren Hall, and UNEX sites.

Table 3-7 provides a summary of the key construction assumptions for the five proposed housing projects, and a description of key construction considerations for each site is provided below. It should be noted that construction of the proposed housing sites would not only overlap with each other, but would also be under construction at the same time as other projects on campus. Campus construction projects are identified on Figure 3-2, UCLA Campus Map, of this Draft SEIR, and notably include the Margan Apartments Redevelopment Project (adjacent to the UNEX and Warren Hall sites) and the Anderson School of Management Building Addition Project (approximately 0.3 mile east of the Drake Stadium site). The Margan Apartments Redevelopment Project was initiated in June 2017 and is estimated to be complete by fall 2019. Construction for the Anderson School Building Addition is estimated to start in November 2017 and be completed by December 2019 before the currently estimated construction start date for the Drake Stadium site. It should also be noted that the Mo Ostin Basketball Center will be completed in November 2017, and interior renovation/construction activities for the Geffen Academy at UCLA would be complete by September 2018.

A construction traffic route would be designated for each construction site to efficiently move construction vehicles to avoid traffic from any other on-campus projects under construction at the same time to the extent feasible. Anticipated construction routes are also described below for each site. Pursuant to Campus Program, Practice, and Procedure (PP) 4.13-2 from the March 2009 LRDP Amendment Final EIR, the construction of major projects would be coordinated to adjust construction schedules, work hours, and access routes to the extent feasible in order to reduce construction-related traffic congestion. During construction, commuter/passenger vehicles, public transit buses, and emergency vehicles would continue to use existing roadways in the vicinity of the project sites. Further, construction activities would adhere to requirements for maintaining travel on campus roadways and traffic management, and for notification of temporary lane or roadway closures (refer to Section 4.13, Transportation and Traffic, of this Draft SEIR). Unless otherwise noted below, pedestrian and bicycle travel adjacent to the proposed housing sites would also be maintained. If temporary closures of sidewalks or bicycle lanes are required, pedestrians and bicyclists would be re-routed to the opposite side of the street.

- **Lot 15 Site.** The construction impact limits for the Lot 15 site are depicted on Figure 3-18. Site demolition would involve existing structures and hardscape (asphalt and concrete). Existing vegetation would also be removed during site preparation. In addition to the identified construction area, a staging area is needed to receive, lay down, and prepare materials for use during construction. As shown in Figure 3-18, the construction staging/laydown area for this site would occur on campus and would be located in the existing graded area northwest of the Sycamore tennis courts. As discussed previously in Section 3.5.5, Utility Infrastructure, the project would have a sewer line connection to either Veteran Avenue or a potential sewer line extension would connect the project site to a line in Gayley Avenue. Under either scenario, development at Lot 15 would involve sewer line upgrades in either Veteran or Gayley Avenues.

  As shown in Table 3-7, demolition and grading activities would involve the use of heavy trucks to transport material from the site. There would be approximately 1,970 cubic yards (cy) of demolition materials transported from the site, and grading activities would require the net export of approximately 21,600 cy of soils. Therefore, based on a conservative assumption that 10-cy haul trucks would be used and an estimated 2 month timeframe for demolition, site preparation and grading activities, it is estimated that approximately 54 round truck trips would be generated per day at the Lot 15 site during these activities, which require the highest number of daily truck trips.

  It is expected that the construction routes for this site would be Interstate (I) 405 Freeway, Wilshire Boulevard, Gayley Avenue, Strathmore Drive, Charles E. Young Drive West, and De Neve Drive.

  It should be noted that the access road/fire lane serving the Southern Regional Library and the Sycamore Tennis Courts, which forms the eastern and southern site boundaries, and the access road/fire access along the north site boundary would remain open during construction.

TABLE 3-7
CONSTRUCTION ASSUMPTIONS

Housing Site	Demolition/ Site Preparation/ Grading	Building Construction[a]	Estimated Demolition Materials[b] (cy/tons)	Earthwork Estimates			Maximum Daily Round Truck Trips	Anticipated Construction Equipment[d]
				Cut (cy)	Fill (cy)	Import/ Export (cy)		
Lot 15	2 months	30 months	1,970/ 2,660	21,000	0	21,600[c] (E)	54	2–3 excavators, 2 loaders, 2 forklifts, 1 drill rig, 1 tower or mobile crane
Warren Hall	4 months	36 months	9,780/ 13,200	19,000	0	21,400[c] (E)	23 (during demolition) 49 (during earthwork)	3–4 excavators, 2 loaders, 2 forklifts, 1 tower or mobile crane, 1 water truck, 1 street sweeper, 1 possible drill rig
UNEX	4 months	30 months	6,556/8,851	5,200	6,500	1,300 (I)	15 (during demolition) 4 (during earthwork)	2–3 excavators with hammerheads, 1 drill rig, 1 loader, 1 forklift
Bradley	3 months	25 months	0	41,000	0	41,000 (E)	63	2 excavators, 1 loader, 1 forklift
Drake Stadium	3 months	30 months	113/153	0	0	0	1	2–4 excavators, 2–4 loaders, 2 forklifts, 2 drill rigs, 1 tower or mobile crane

cy: cubic yards; (E): export; (I): import

[a] Includes utility installation, building construction, and architectural coatings.
[b] Includes debris from demolition of on-site structures and hardscape (e.g., asphalt and concrete).
[c] The export calculation includes a 15 percent contingency for analysis purposes.
[d] As required by March 2009 LRDP Amendment Final EIR MM 4.2-(c), the campus shall require by contract specifications that construction-related equipment used on site and for on-road export of soil meet USEPA Tier 3 certification requirements.

- **Warren Hall Site.** The construction impact limits for the Warren Hall site are depicted on Figure 3-19. Site demolition would involve existing structures and hardscape (asphalt and concrete). Existing vegetation would also be removed during site preparation. The construction staging/laydown area for this site would occur on campus within the construction impact limits depicted on Figure 3-19. As discussed previously in Section 3.5.5, Utility Infrastructure, and shown on Figure 3-19, there are two options for sewer line upgrades that are being considered for the Warren Hall site.

  As shown in Table 3-7, demolition and grading activities would involve the use of heavy trucks to transport material from the site. There would be approximately 9,780 cy of demolition materials transported from the site, and grading activities would require the net export of approximately 21,400 cy of soils. Therefore, based on a conservative assumptions that 10-cy haul trucks would be used and an estimated 4-month timeframe for demolition, site preparation and grading activities, it is estimated that approximately 23 round truck trips would be generated per day during demolition activities at the Warren Hall site, and approximately 49 round truck trips would be generated during earthwork activities.

  It is expected that the construction routes for this site would be I-405, Wilshire Boulevard, Veteran Avenue, and South Lane (a UCLA-owned and gated access road, north of Weyburn Avenue). Construction workers at the Warren Hall site would park at the Olive

Court parking and students would be assigned to vacant parking in other Courts in the complex during construction.

During construction, the UCLA-owned access road, South Lane (north of Weyburn Avenue, off Veteran Avenue), would be restricted to construction vehicles and construction workers. Non-construction vehicle traffic would be directed to other access roads in the Weyburn Terrace complex. The Weyburn Bruin Bus stop (at the northeast corner of Weyburn Avenue and Weyburn Terrace Lane intersection) would be maintained until later in the construction phase. During the modification, it is anticipated that the bus stop would be temporarily located on the northwest corner of the intersection with signage for both pedestrians and regular vehicles.

- **UNEX Site.** The construction impact limits for the UNEX site are also depicted on Figure 3-19. Site demolition would involve the existing UNEX Building and hardscape. Existing vegetation would also be removed during site preparation. The construction staging/laydown area for this site would be located within the construction impact limits identified on Figure 3-19.

  As shown in Table 3-7, demolition and grading activities would involve the use of heavy trucks to transport material from the site. There would be approximately 6,556 cy of demolition materials transported from the site, and grading activities would require the import of approximately 1,300 cy of soils. Therefore, based on a conservative assumption that 10-cy haul trucks would be used and an estimated 2-month timeframe for demolition, it is estimated that approximately 15 round truck trips would be generated per day at the UNEX site during demolition activities. Demolition activities would require the highest number of daily truck trips at this site; there would be approximately 4 round truck trips per day during earthwork activities.

  It is expected that the construction routes for this site would be I-405, Wilshire Boulevard, Veteran Avenue, Weyburn Avenue, Gayley Avenue, and Le Conte Avenue.

- **Bradley Site.** The construction impact limits for the Bradley site are depicted on Figure 3-20. The construction staging/laydown area for this site would be located within the construction impact limits identified on Figure 3-20.

  Site preparation (including the removal of existing vegetation) and grading activities would involve the use of heavy trucks to transport material from the site. Site preparation and grading activities would require the export of approximately 41,000 cy of debris and soils. Conservatively assuming use of 10-cy haul trucks, these activities would generate approximately 63 round truck trips over an estimated 3 month period.

  It is expected that the construction routes for this site would be I-405, Wilshire Boulevard, ~~Veteran Avenue,~~ Gayley Avenue, Strathmore Place, and Charles E. Young Drive West. As discussed previously in Section 3.5.5, Utility Infrastructure, development of the Bradley site would require an upgrade of the 18-inch sewer main in Gayley Avenue to a 24-inch main.

- **Drake Stadium Site.** The construction impact limits for the Drake Stadium site are depicted on Figure 3-21. The construction staging/laydown area for this site would be located within the construction impact limits identified on Figure 3-21. The track and field of Drake Stadium would remain in use during the building construction for both recreation and National Collegiate Athletic Association (NCAA) Athletic team uses. Spectator events would be facilitated with mobile bleachers that are currently used on the east side of the field.

As shown in Table 3-7, site preparation (including the removal of existing vegetation and hardscape) would involve the use of heavy trucks to transport material from the site (estimated to be 113 cy). Conservatively assuming use of 10-cy haul trucks, these activities would generate approximately 1 round truck trip per day over an estimated 12-week period.

It is expected that the construction routes for this site would be I-405, Wilshire Boulevard, Gayley Avenue, Strathmore Place, and Charles E. Young Drive West. As discussed previously in Section 3.5.5, Utility Infrastructure, development of the Drake site would require an upgrade of the 18-inch sewer main in Gayley Avenue to a 24-inch main.

3.6 RELOCATION OF EXISTING BUILDING OCCUPANTS AND USES

As previously identified, the Lot 15, Warren Hall, and UNEX sites are currently developed with facilities and occupied buildings that would be removed with implementation of the proposed housing projects. Occupants of these buildings would be relocated, as appropriate. None of the proposed relocations would require construction of new structures.

- **Lot 15.** The Lot 15 site is occupied by various facilities used by the UCLA Housing and Facilities Management departments for storage of parts, materials, and plants. The UCLA Housing Maintenance and Storage would be accommodated in the partial subterranean basement portion of the proposed housing project, while Facilities Management functions would be accommodated at the Facilities Storage Yard, also located within the Northwest zone.
- **Warren Hall.** Warren Hall and the Larry L. Hillblom Islet Research Center contain various laboratory and research facilities. The School of Medicine would determine which of the existing faculty and staff operating at this site that would be relocated to other facilities on campus.
- **UNEX Building.** The UCLA University Extension Program provides certificate programs and continuing higher education classes. The UNEX building is one of various locations from which the Extension program operates. This building currently serves as the administration building for UCLA Extension Program; therefore, it is occupied largely with office space with some classroom uses. Existing occupants at this building would be relocated to leased space adjacent to the campus as part of a long-term plan to consolidate the University Extension Program in a new facility. Specifically, the occupants are being relocated to 10960 Wilshire Boulevard, which is adjacent and across the street from Lot 36 in the Southwest zone and to the Gayley Center, located at 1145 Gayley Avenue, at the southwest corner of Gayley and Kinross Avenues.

3.7 LONG RANGE DEVELOPMENT PLAN AMENDMENT (2017)

3.7.1 EXISTING ENTITLEMENT AND REMAINING LRDP ALLOCATION

As shown in Table 3-8, UCLA currently has approximately 18,670,007 gsf of space that is either occupied, is currently under construction, or is approved; this represents the existing “baseline” condition on campus. Additionally, there is 174,615 gsf of remaining development allocation in the Existing LRDP (not yet allocated for specific development). Detailed information regarding the development allocation by zone is provided in Appendix B to this Draft SEIR.

TABLE 3-8
LONG RANGE DEVELOPMENT PLAN
EXISTING ENTITLEMENT AND PROPOSED ALLOCATION
BY LRDP ZONE

LRDP Zone	Existing and Approved LRDP Entitlement (gsf)	Remaining LRDP Allocation (gsf)	Total LRDP Entitlement plus Remaining Allocation (gsf)	Proposed LRDP Amendment Allocation (2017)	LRDP Amendment (2017) Anticipated Buildout by 2025
Botanical Garden	19,100	0	19,100	0	19,100
Bridge	340,932[a]	0	340,932	256,500[c]	597,432
Campus Services	373,185	0	373,185	0	373,185
Central	1,494,766	54,615	1,549,381	240,000	1,789,381
Core	7,296,414[b]	110,000	7,406,414	0	7,406,414
Health Sciences	4,664,437	0	4,664,437	0	4,664,437
Northwest	3,100,820	0	3,100,820	463,000[d]	3,563,820
Southwest	1,380,353	10,000	1,390,353	540,500[e]	1,930,853
Total	***18,670,007***	***174,615***	***18,844,622***	***1,500,000***	***20,344,622***

[a] Includes the 61,000 gsf approved Margan Apartments (construction was initiated in June 2017 and is estimated to be completed by fall 2019).
[b] Includes the 75,177 gsf Wasserman Football Center (completed July 2017); 37,000 gsf Mo Ostin Basketball Center (estimated completion November 2017); and 62,000 gsf Anderson School of Management Building Addition (estimated construction start is November 2017 and construction end by December 2019).
[c] Net increase in Bridge zone development allocation with demolition of the existing UNEX building (93,500 gsf).
[d] Net increase in Northwest zone development allocation with demolition of the 2 existing Ornamental Horticulture buildings at the Lot 15 site (12,000 gsf).
[e] Net increase in Southwest zone development allocation taking into consideration demolition of the existing buildings at the Warren Hall site (109,500 gsf).

3.7.2 PROPOSED LRDP AMENDMENT (2017) DEVELOPMENT ALLOCATION

Because the proposed housing development was not contemplated in the Existing LRDP, an amendment to add 1,500,000 gsf is proposed, which represents a net increase in square footage allocation that includes buildings that would be demolished to accommodate the proposed housing projects. The allocation of this square footage by zone is presented in Table 3.7-1.

The proposed Project retains the land use designations (including academic, recreational, residential, health sciences, and other land uses) contained in the same eight land use zones envisioned in the 2002, as amended in 2009, and 1990 LRDPs. Additionally, the 174,615 gsf of remaining development allocation from the Existing LRDP would be retained (not applied to the proposed housing projects).

The proposed Project is consistent with the 2002 LRDP planning principles (or LRDP objectives) that guide the physical planning process objectives. These planning principles are discussed in each topical environmental section in this Draft SEIR, as applicable.

3.7.3 CAMPUS POPULATION

The on-campus population, or the number of individuals either enrolled, employed, or visiting the campus (represented by head count), consists of students, academic employees, staff employees, and other individuals (e.g., visitors). Students make up the largest head count group, followed by staff and academic employees. The on-campus student population includes total

general campus and health science enrollment and excludes off-campus health science students, students studying abroad, and students in self-supporting evening programs. Staff and academic employees who work at off-campus locations or outside normal business hours are also excluded from the on-campus population.

On-campus population figures are adjusted to reflect the fact that all students, faculty, and staff who may be on campus at some time will not be on campus simultaneously on any given day. This is because weekday attendance patterns for students and employees vary due to class and teaching schedules, vacations, sick leave, and absences from campus for travel, among other reasons, and other less than full-time work or study schedules. Due to these variations, the number of enrolled students and employed individuals on campus on any given weekday is less than the total number of people enrolled and employed. The average three-quarter weekday population adjusts the total on-campus population to represent the average number of people (students and employees) physically on campus on any given weekday.

While the campus operates 365 days a year, the academic calendar consists of the regular session (fall, winter, and spring 3-quarter average) and summer session (12 weeks). The average weekday population during the 12-week summer session is typically between 60 and 65 percent of the average weekday population during the regular session. Therefore, for purposes of analysis, the regular session population is used as the basis for the impact analysis.

The March 2009 LRDP Amendment Final EIR (Table 4.10-4) projected population for students, employees, and visitors out to 2013–2014. The projections were solely for the purpose of conducting impact analyses in the LRDP Final EIR. Subsequently, the UCLA Geffen Academy Final EIR identified the new campus population baseline condition; it analyzed (1) the increase in population associated with operation of the Geffen Academy and (2) the UC system-wide enrollment increases approved by the UC President and The Regents in November 2015 (UCLA 2016a).

The established population projections for 2020 and 2025 are presented below in Table 3-9.

TABLE 3-9
UCLA ON-CAMPUS POPULATION 2014–2025
3-QUARTER REGULAR SESSION AVERAGE WEEKDAY

	Baseline 2014–2015	Fall 2016	Fall 2017	Fall 2020	Fall 2025
Students					
Undergraduate and Graduate[a]	32,944	33,563	33,872	34,181	34,181
Employees					
Academic[b]	5,306	5,452	5,528	5,759	6,090
Staff[c]	17,162	18,018	18,469	19,890	21,956
Other Individuals:					
Visitors[d]	11,820	12,590	12,757	13,270	13,543
Geffen Academy Students[e]	–	–	160	620	620
Total	**67,232**	**69,623**	**70,786**	**73,720**	**76,390**

[a] Starting in fall 2016, the UCLA campus will increase the undergraduate population by 750 students. In fall 2017 and 2018, an additional 375 undergraduate students will be enrolled, per year, for a total increase of 1,500 undergraduate students. This enrollment increase is imbedded in the Student numbers. Students are adjusted for varied class and teaching schedules, vacations, sick leave, absences from campus, and other less than full-time work or study schedules. Also excluded are students in Self-Supporting, Study Abroad, and University of California, Washington, D.C. (UCDC) programs.

[b] Academic Employees exclude student assistants, sabbatical and other leaves, remote academic, and University Extension.

[c] The Geffen Academy Project opens in fall 2017 with 49 new staff, increasing to 109 staff by 2020. The 5 proposed housing projects in this LRDP Amendment would generate 145 new staff. These Project-related staff increases are included in the Staff population numbers. Staff numbers exclude student staff, remote staff, and evening employees.

[d] Other Individuals (a.k.a., Visitors) include, but are not limited to, Medical Center clinical and affiliated faculty, patients, visitors, volunteers, pre-school (Krieger) and University Elementary School (UES) children, vendors, contractors, Luskin Conference and Guest Center guests and conferees, and construction workers.

[e] The Geffen Academy is proposed to add 160 students in fall 2017, in grades 6 and 9. By 2020, the Academy would have a full enrollment of grades 6 through 12 and a total student population of 620 students.

Increases in the on-campus population as a result of the proposed Project are addressed in Section 4.11, Population and Housing, of this Draft SEIR. In summary, the proposed Project would generate approximately 145 new staff positions on campus consisting of maintenance, grounds, custodial, administrative, residential life and dining. For the majority of these positions, there would be multiple work shifts. Therefore, it is not expected that each of the new staff would be on campus at the same time each day.

With respect to the student population, the proposed Project would not increase the student enrollment at UCLA, as discussed above. Therefore, there would not be an increase in the on-campus student population. Additionally, with respect to the on campus student residents, while there would be up to 6,900 new beds on campus, it is estimated that 1,962 of these would be occupied by current students living on campus in triple rooms designed for two beds. The remaining 4,938 student beds would be occupied by students not currently living on campus (new students, returning student residents, transfer students and graduate students).

3.7.4 LRDP AVERAGE DAILY TRAFFIC AND PARKING LIMITS

In 1990, the UCLA campus entered into a Transportation Mitigation Monitoring Agreement with the City of Los Angeles to limit the total number of vehicle trips (a trip cap) set at 139,500 average daily vehicle trips. This trip cap is included in the Existing LRDP. To date, the campus has never exceeded the trip cap, even though population has grown since 1990. Based on the 2016 UCLA

State of the Commute, the 2016 daily vehicle count was 105,284; approximately 25 percent below the established trip cap (UCLA 2016b).

In addition, the Existing LRDP maintains the same parking space limits adopted in the 1990 LRDP (25,169 parking spaces). Currently there are 22,738 parking spaces on campus (UCLA 2016b).

The proposed Project would not involve any modifications to the previously adopted campus-wide vehicle trip generation and parking limits.

3.8 1978 STIPULATED AGREEMENT OF COMPROMISE AND ORDER MODIFICATION FOR LOT 15

A 1978 Stipulated Agreement of Compromise and Order (Order) entered by the Los Angeles Superior Court and resolving litigation filed by the Westwood Hills Property Owners Association against The Regents of the University of California (The Regents) limits development on Lot 15 to uses including, but not limited to, open green space; landscape buffers; pre-existing ornamental horticultural buildings and parking facilities; and low intensity, non-spectator, recreational, and athletic spaces. The Order[4] requires the use restriction to remain in effect until "there has been a substantial change of circumstances within the University as to warrant a modification . . .".

The proposed LRDP Amendment and associated housing project at the Lot 15 site would not terminate the Order; rather, UCLA is requesting that the Regents take the necessary actions to modify the Order to exclude the Lot 15 site from the land use restrictions that reserve the benign use zone for only benign uses. This exclusion is similar to that included in the Order for the Hitch and Saxon Residential Suites.

3.9 ANTICIPATED DISCRETIONARY APPROVALS

The Regents will consider the proposed LRDP Amendment (2017) and Student Housing Project and the SEIR for Project approval. The Regents and the responsible agencies identified below are expected to use the information contained in this SEIR for consideration of approvals related to and involved in the implementation of the proposed Project. The SEIR informs State, regional, and local government approvals needed for construction and/or operation of the proposed Project, whether or not such actions are known or are explicitly listed. Anticipated approvals required from the UC and the responsible agencies to implement the proposed Project include, but are not limited to, those listed below.

University of California Board of Regents

- Budget approval
- Certification of the Final SEIR, including identified modifications to previously adopted March 2009 LRDP Amendment Final EIR Mitigation Measures (MMs) and Programs, Practices, and Procedures (PPs), as identified in this Draft SEIR.
- Modification to the 1978 Stipulated Agreement of Compromise and Order to allow for residential development on Lot 15 (refer to this discussion provided in Section 3.9, above).

[4] The land covered by the Order is bordered by Veteran Avenue on the west side of campus; by Sunset Boulevard to Bellagio Road on the north; by Bellagio Road and De Neve Drive and the line running south to Gayley Avenue from the intersection of De Neve Drive to then existing Lot 13 on the east; and on the south by Gayley Avenue west to Veteran Avenue.

- Design approval for one or more of the proposed housing developments at the following sites: Lot 15, Warren Hall and/or UNEX sites.

Responsible Agencies

- **City of Los Angeles.** The proposed Project will require (1) street improvement and/or construction easements for City roadways adjacent to the proposed housing sites, (2) approval of sewer plans for new and upgraded sewer lines, and connections to existing utility lines in City-owned roadway right-of-way.
- **South Coast Air Quality Management District.** UCLA would obtain permits to construct and/or permits to operate new stationary sources of equipment that emit or control air contaminants (e.g., heating, ventilation, and air conditioning units and diesel generators).
- **State of California Regional Water Quality Control Board**. UCLA will comply with requirements of the applicable National Pollution Discharge Elimination System (NPDES) Permit.

3.10 REFERENCES

Los Angeles, City of. 1982 (as amended). Ordinance No. 177404 (An ordinance amending various provisions of Articles 2 and 7 of Chapter I and Article 6 of Chapter IV and Section 96.303.5 of the Los Angeles Municipal Code to assure the protection of, and to further regulate the removal of, protected trees). Los Angeles, CA: the City.

University of California, Los Angeles (UCLA). 2017 (March). *UCLA Housing & Hospitality Services Student Housing Master Plan 2016–2026.* Los Angeles, CA: UCLA.

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University of California Office of the President (UCOP). 2015. University of California – Policy: Sustainable Practices. Oakland, CA: UCOP.

Westwood Hills Property Owners Association and The Regents of the University of California, the President of the University of California, and the Chancellor of the University of California. 1978 (February). Stipulated Agreement of Compromise and Order Thereon. Los Angeles, CA: Superior Court of the State of California for the County of Los Angeles.

SECTION 4.0 INTRODUCTION TO THE ENVIRONMENTAL ANALYSIS

4.0.1 INTRODUCTION

Sections 4.1 through 4.14 of this Draft Subsequent Environmental Impact Report (SEIR) contain a discussion of the potential environmental effects of implementing the proposed University of California, Los Angeles (UCLA) Long Range Development Plan (LRDP) Amendment (2017) and Student Housing Projects (proposed Project), and include information related to existing regional, local, and site conditions; analyses of the type and magnitude of individual and cumulative environmental impacts; and feasible mitigation measures that could reduce or avoid environmental impacts. The environmental topical issues addressed in this EIR are outlined in Section 3.3.5 of the University of California (UC) California Environmental Quality Act (CEQA) Handbook, which are based on Appendix G of the State CEQA Guidelines. The State CEQA Guidelines have been updated since publication of the UC CEQA Handbook, and updates have been incorporated into this Draft SEIR, as appropriate.

As discussed in Section 2.0, Introduction, of this Draft SEIR, this Draft SEIR is tiered from the March 2009 LRDP Amendment Final EIR, as applicable. CEQA and the State CEQA Guidelines encourage the use of tiered environmental documents to eliminate repetitive discussions of the same issues. The March 2009 LRDP Amendment Final EIR provides information on the regional and local setting, and provides a broad analysis of the environmental effects of implementing development projects on the University of California, Los Angeles (UCLA) campus. UCLA determined that the proposed Project required additional analysis in this Draft SEIR to evaluate the proposed housing projects and associated actions in the context of the impact analysis in the March 2009 LRDP Amendment Final EIR.

This “Introduction to the Environmental Analysis” section is provided to assist the reader in understanding the terminology, format, content, and overall approach to the environmental analysis. For reference, the proposed Project components are herein referred to as:

- ***Proposed Project*** refers collectively to the each of the project components and project actions described in Section 3.0, Project Description, of this Draft SEIR. This includes, but is not limited to, the proposed LRDP Amendment (2017) to allocate an additional 1,500,000 gross square feet (gsf) of development in various campus zones, construction and operation of student housing at the 5 proposed on-campus housing sites, and modifications to the existing use restrictions within a portion of the campus Northwest zone that are currently in place.
- ***Proposed Housing Project(s) or Proposed Student Housing Project(s)*** refers to the construction and operation of the proposed student housing projects (up to 6,900 beds) at 5 identified locations on campus (Lot 15, Warren Hall, University Extension [UNEX], Bradley and Drake Stadium sites). Depending on the context, this reference can refer to one or more of the proposed housing projects.

4.0.2 FORMAT OF THE ENVIRONMENTAL ANALYSIS

Sections 4.1 through 4.14 are generally formatted to include the subheadings listed below.

Environmental Setting

According to Section 15125 of the State CEQA Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of a proposed Project to provide the "baseline condition" against which project-related impacts are compared. Normally, the baseline condition is the physical condition that exists when the Notice of Preparation (NOP) is published. The NOP for this Draft SEIR was published in May 2017. However, the State CEQA Guidelines recognize that the date for establishing an environmental baseline cannot be rigid. Because physical environmental conditions may vary over a range of time periods, the use of environmental baselines that differ from the NOP date is reasonable and appropriate when doing so results in a more accurate or conservative environmental analysis. Unless otherwise noted, the baseline condition assumed in this Draft SEIR is the condition that existed when the NOP was published; in exception to this is explained in the respective technical sections in Section 4.0 of this Draft SEIR. Notably, since release of the NOP, the Wasserman Football Center on campus was completed (and occupied in July 2017), and the construction activities for the previously approved Margan Apartments Redevelopment project have been initiated.

The March 2009 LRDP Amendment Final EIR includes descriptions of the environmental settings for the region, the UCLA campus, and surrounding areas. This Draft SEIR summarizes relevant setting information from the LRDP Final EIR and also provides site-specific descriptions of the environmental setting for the proposed housing sites and surrounding areas.

Regulatory Framework

The March 2009 LRDP Amendment Final EIR includes descriptions of the regulatory framework for the region, the UCLA campus, and surrounding areas. The regulatory framework provides a summary of federal, State, and/or local regulations, plans, policies, and laws that are relevant to the proposed Project and each issue area. It should be noted that UCLA is part of the University of California, a constitutionally created entity of the State of California. As a constitutional entity, the University of California is not subject to municipal regulations, such as the County and City General Plans, zoning, or other land use controls. However, for some technical analyses, UCLA has elected to use methodologies and/or standards from municipal regulations to promote consistency with the neighboring community. These instances are specifically identified in the respective sections.

Particularly applicable, updated, and/or new regulatory framework information since the LRDP Final EIR was prepared is provided in each section.

Project Impacts and Mitigation

Each analysis section is further divided into the following subsections.

Methods

This subsection briefly identifies the methods used to analyze potential environmental impacts and is consistent with the methods used for the March 2009 LRDP Amendment Final EIR, unless otherwise noted.

Thresholds of Significance

Thresholds of significance are criteria used to determine whether potential environmental effects are significant. The thresholds of significance used in this analysis were primarily based upon Appendix G of the State CEQA Guidelines; however, in some cases, standards were developed specifically for this analysis or reflect those used by the University in other environmental analyses. The threshold of significance defines the type, amount, and/or extent of impact that would be considered a significant adverse change in the environment. Some thresholds (e.g., air quality, traffic, and noise) are quantitative, while others (e.g., land use and planning) are qualitative. The thresholds are intended to assist the reader in understanding how and why the SEIR reaches a conclusion that an impact is significant or less than significant.

Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 LRDP Amendment Final EIR.

In conjunction with certification of the March 2009 LRDP Amendment Final EIR and approval of the March 2009 amendment to the UCLA 2002 LRDP, The Regents also adopted a Mitigation Monitoring and Reporting Program (MMRP). The MMRP ensures that campus programs, practices, and procedures (PPs) and mitigation measures (MMs) that are the responsibility of the University of California (UC) are implemented in a timely manner. As individual projects, such as the proposed student housing projects, are designed and constructed, the projects include features necessary to implement relevant PPs and MMs. In accordance with The Regents' March 2009 approval of the LRDP Amendment and certification of the LRDP Final EIR, all relevant LRDP Final EIR PPs and MMs are incorporated into the proposed Project Description and will be implemented as a part of the proposed housing projects and monitored through the MMRP approved for the March 2009 LRDP Amendment Final EIR. Relevant PPs and MMs from the March 2009 LRDP Amendment Final EIR are listed in the introduction to the analysis for each topical issue in Section 4.0.

Impact Analysis

This section contains the detailed analysis of potential environmental impacts based on the established thresholds of significance. The following information is provided for each topical issue:

- **Impact Analysis for Each Threshold of Significance.** For each identified threshold of significance, this section provides the analysis of potential impacts resulting from the proposed Project. As required by Section 15126.2(a) of the State CEQA Guidelines, direct, indirect, short-term (construction-related), and long-term (operational) impacts are addressed, as appropriate, for the environmental issue area being analyzed. Impacts on campus and off campus are addressed as appropriate. A determination regarding the significance of the impact (no impact, less than significant, or significant and unavoidable) with incorporation of relevant PPs an MMs from the March 2009 LRDP Amendment Final EIR is provided, along with a determination regarding the consistency of the impact conclusion for the proposed Project with the conclusion presented in the March 2009 LRDP Amendment Final EIR.

As discussed in Section 3.0, Project Description, it is expected that the maximum initial student housing development would consist of up to 5,500 beds at 3 of the proposed housing sites (Lot 15, Warren Hall, and UNEX sites). These sites are proposed for the initial development based on the ability to maximize the use of limited land resources and develop the proposed housing in timely manner; these sites would be available between spring 2021 and early (winter) 2022. The assumed maximum bed count and associated building size (e.g., height and gsf) at each individual site has been addressed in the analysis, as applicable. It is important to note that the maximum number of beds analyzed at each site is not anticipated to be built. The remaining development at the Bradley and Drake Stadium sites is assumed to be developed subsequently with construction activities estimated to be initiated in fall 2022 and spring 2023, respectively, and be completed by summer 2025.

The approach to analysis for each threshold varies depending on the issue under consideration, and whether (1) the potential impact requires site-specific consideration (e.g., visual changes, geologic conditions, hazardous materials, changes in site drainage conditions, removal of vegetation and trees) or (2) the potential impact requires a combined analysis considering all five sites collectively (full buildout of the proposed housing projects) to provide the most conservative analysis (e.g., operational traffic and air quality impacts). Additionally, when appropriate, analysis of the combined impacts for the initial housing projects at the Lot 15, Warren Hall, and UNEX sites is considered (e.g., regional construction air quality emissions). When appropriate, or necessary, the approach to analysis is provided for each topic.

- **Additional Project-Level Mitigation Measures.** Where project impacts have been identified, project-specific mitigation measures to avoid or reduce impacts are identified. If the mitigation measure is site-specific (only applicable to one site), this is also identified.
- **Level of Significance after Mitigation.** This section identifies the level of significance of each impact after implementation of identified mitigation measures.

Cumulative Impacts

CEQA requires that EIRs discuss cumulative impacts in addition to project-specific impacts. In accordance with Section 15130(b) of the State CEQA Guidelines, "the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone." Further, the discussion is guided by the standards of practicality and reasonableness. According to Section 15355 of the State CEQA Guidelines,

> "Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.
>
> (a) The individual effects may be changes resulting from a single project or a number of separate projects.
>
> (b) The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Section 15130(a) of the State CEQA Guidelines also requires that EIRs discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, it does not need to consider the effect significant, but shall briefly describe the basis for its conclusion. As further clarified by Section 15065 of the State CEQA Guidelines, "cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. If the combined cumulative impact associated with the project's incremental effects and the effects of other projects is not significant, Section 15130(a)(2) of the State CEQA Guidelines requires a brief discussion in the EIR about why the cumulative impact is not significant and is not discussed in further detail. Section 15130(a)(3) of the State CEQA Guidelines requires supporting analysis in the EIR if a determination is made that a project's contribution to a significant cumulative impact is rendered less than cumulatively considerable and, therefore, is not significant. To support each significance conclusion, this Draft SEIR provides a cumulative impact analysis and, where proposed Project-specific impacts have been identified that, together with the effects of other pending projects, could result in cumulatively significant impacts, these potential impacts are documented.

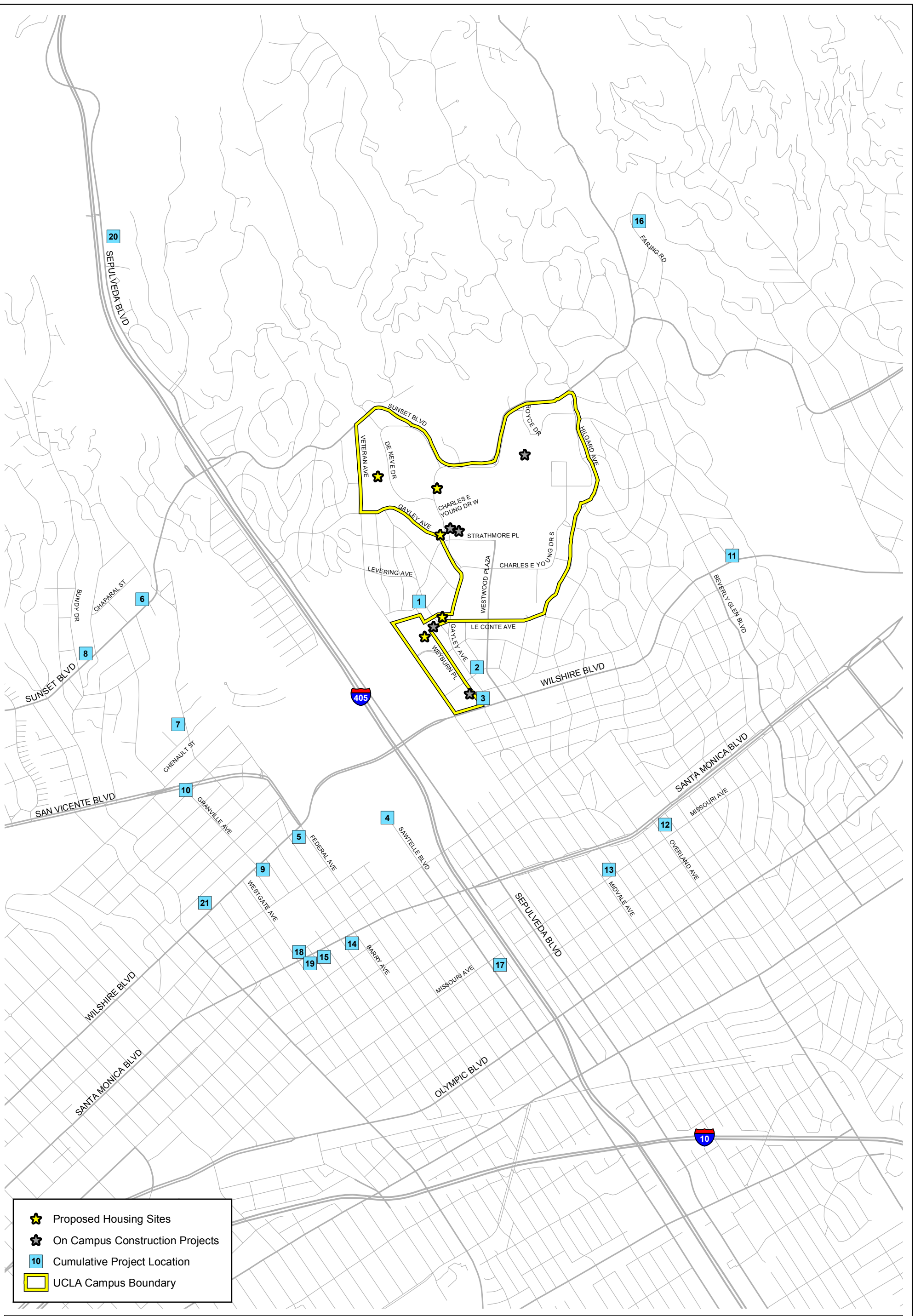
The State CEQA Guidelines (Section 15130[b][1]) state that the information used in an analysis of cumulative impacts should come from one of two sources, either:

1. A list of past, present, and probable future projects producing related cumulative impacts, including, if necessary, those projects outside the control of the agency, or
2. A summary of projections contained in an adopted general plan or related planning document designed to evaluate regional or areawide conditions.

The cumulative impacts analyses contained in this Draft SEIR use both methods. As appropriate, the cumulative impact analyses provided in this Draft SEIR use the *City of Los Angeles General Plan Framework* study area. These cumulative impact analyses take into consideration the demographic projections and land use buildout assumptions outlined in the 2002 LRDP, as amended in March 2009, updated as appropriate, and the *General Plan Framework Final EIR* that was approved by the City of Los Angeles in 1996 (re-adopted in August 2001).

In addition to the *City of Los Angeles General Plan Framework* study area, the cumulative analysis for individual topical issues may consider specific cumulative study areas designated by respective agencies for regional or area-wide conditions. For instance, topic-specific cumulative study areas have been developed for traffic and air quality (e.g., South Coast Air Basin). Also, this Draft SEIR considers regional programs directed at mitigating cumulative impacts of development such as those instituted for urban runoff. A description of the basis for the cumulative impact analysis for individual topical issues is provided within each cumulative analysis discussion in Sections 4.1 through 4.14 of this Draft SEIR.

Finally, and where appropriate to the analysis in question, cumulative impacts are assessed with reference to a list of off-campus "cumulative projects," as described by Section 15130(b) of the State CEQA Guidelines. A variety of off-campus, cumulative projects within a 1.5-mile radius of the campus, as identified by the Los Angeles Department of Transportation (LADOT), are reflected in Table 4-1 and shown in Figure 4-1. The list provided by the LADOT has been supplemented with additional information available from the City of Los Angeles Department of City Planning website.



D:\Projects\UCLA\J0028.08\MXD\EIR\ex_Cumulative_Projects_20170712.mxd

Cumulative Projects

Figure 4-1

UCLA LRDP Amendment (2017) and Student Housing Projects

PSOMAS

(Rev: 7-12-2017 MMD) R:\Projects\UCLA\J0028.08\Graphics\EIR\ex_Cumulative_Projects.pdf

With respect to cumulative UCLA projects, since certification of the March 2009 LRDP Amendment Final EIR, a number of projects have been approved for UCLA and are also considered in the cumulative impacts analysis for the proposed Project. The major on-campus construction projects are within the remaining development allocation assumed for the campus in the March 2009 LRDP Amendment Final EIR; are shown on the campus map presented in Figure 3-2 in Section 3.0, Project Description, of this Draft SEIR; and include the following on-campus projects listed below, which were subject to project-specific environmental documentation pursuant to CEQA:

- **Mo Ostin Basketball Center.** This project involves construction and operation of a new Basketball Practice Facility (up to 37,000 gsf) to accommodate both men's and women's basketball training programs of the Department of Intercollegiate Athletics. The project is located east of the Bradley site, west of the Football Performance Center and south of the Los Angeles Tennis Center in the Central zone. Construction is anticipated to be complete by November 2017, prior to initiation of construction activities for the proposed housing projects.
- **Margan Apartments Redevelopment Project.** This project involves demolition of an existing, UCLA-owned, undergraduate apartment building of approximately 43,000 gsf, and construction of a new 62,000-gsf apartment building. This project would provide a total of 42 apartment units accommodating 216 beds for undergraduate and transfer students. This project is located at 885 Levering Avenue in the Bridge zone, and is bound by Levering Avenue to the east and Weyburn Place (an alley) to the west. It is located between the Warren Hall and UNEX sites. Construction of this project was initiated in June 2017 (abatement and remediation), after release of the NOP for this Draft SEIR, and the previous building will demolished in fall 2017. It is estimated that construction will be complete in fall 2019; therefore, construction of this project would occur concurrently with construction at the Lot 15, Warren Hall, and UNEX sites, but would be complete prior to initiation of construction activities for the Bradley and Drake Stadium sites.
- **Anderson School of Management Building Addition Project.** This project involves the construction of a 4-level, approximate 62,000-gsf addition (excluding covered-unenclosed space) to the existing 6-building, approximate 305,000-gsf Anderson School of Management complex. The proposed building addition would be constructed on top of existing Parking Structure 5. Construction for this project is estimated to start in November 2017 and be completed by December 2019; therefore, construction of this project would occur concurrently with construction at the Lot 15, Warren Hall, and UNEX sites, but would be complete prior to initiation of construction activities for the Bradley and Drake Stadium sites.

TABLE 4-1
CITY OF LOS ANGELES LIST OF CUMULATIVE PROJECTS

Location No.	Address/Location	Size		Project Description
1	11024 W Strathmore Drive	31	du	Apartment
2	1073 S Broxton Avenue (Cava Grill Restaurant)	2,328	sf	Retail
3	10955 W Wilshire Boulevard (Westwood Hotel)	250	rm	Hotel
		6,510	sf	Retail
		(7,265)	*sf*	*Retail (to be removed)*
		(8)	*fp*	*Gas Station (to be removed)*
4	11301 Wilshire Boulevard (VA West LA Master Plan)	450,000	sf	Hospital
		42,000	sf	Utility
		675,000	sf	Medical Office
		26,000	sf	Kitchen
		387,000	sf	Research & Development Center
		(27,995)	*sf*	*Utility (to be removed)*
		(799,053)	*sf*	*Hospital (to be removed)*
		(145,162)	*sf*	*Medical Office (to be removed)*
5	11600 W Wilshire Boulevard	120,160	*sf*	Office
		120,874	*sf*	Other
		(168,160)		*Office (to be removed)*
6	11725 W Sunset Boulevard (Archer School for Girls)	518	stu	School
7	625 S Barrington Avenue	46	du	Apartment
8	12001 Sunset Boulevard (Brentwood School)	265	stu	School
9	11750 W Wilshire Boulevard (Landmark Apartments)	376	du	Apartment
		5,000	sf	Retail
10	11750-11800 San Vicente Boulevard[a]	8,363	sf	Commercial
		14	du	Residential
11	888 S Devon Avenue	32	du	Apartment
12	10700 W Santa Monica Boulevard	9,200	sf	Retail
		35,000	sf	Office

TABLE 4-1
CITY OF LOS ANGELES LIST OF CUMULATIVE PROJECTS

Location No.	Address/Location	Size		Project Description
13	1855 Westwood Boulevard	33	du	Apartment
14	11674 Santa Monica[a,b]	55,430	sf	Retail
		166	du	Apartments
15	11750 W Santa Monica Boulevard (Buerge East)	187	du	Apartment
16	700 N Faring Road (Harvard Westlake School)	790	stu	School
17	1900 S Sawtelle Boulevard	52	du	Apartment
		3,300	sf	Restaurant
18	1466 S Westgate Avenue (Westside Family YMCA)	65,000	sf	Community Center
19	11800 W Santa Monica Boulevard	175	du	Apartment
		45,000	sf	Retail
20	1300 N Sepulveda Boulevard	70,000	sf	Temple
	(Leo Baeck Temple Expansion)	168	stu	School
		539	sf	Daycare
21	12029 W Wilshire Boulevard	108	du	Apartment
	(The Picasso Mixed Use)	13,000	sf	Retail
		(22,458)	*sf*	*Mixed-Use Other (to be removed)*

du: dwelling unit; sf: square feet; stu: student; rm: room; fp: fuel pump

[a] Los Angeles 2017a.
[b] Los Angeles 2017b.

In addition to these major construction projects, the Geffen Academy at UCLA and remaining development allocation in the 2002 LRDP, as amended in March 2009 (Existing LRDP) are also taken into consideration in the cumulative impacts analysis, as appropriate:

- **Geffen Academy at UCLA.** This project involves operation of an on-campus college preparatory school for 6th through 12th grade students, which will open in the fall 2017 for school year 2017–2018 with 6th, 7th, and 9th grade classes totaling approximately 160 students, followed by an enrollment increase up to a maximum of 620 students in grades 6 through 12 by the 2020–2021 school year. The Geffen Academy is located in the Southwest zone in the Kinross Building (11000 Kinross Avenue). Interior renovation/construction activities for the Geffen Academy at UCLA would be complete by September 2018.

- **Remaining Development Allocation.** Since adoption of the Existing LRDP, approval of various projects has reduced the original 1.87 million gsf allocation to a remaining approximately 174,615 gsf. This remaining development allocation is being retained and is not yet allocated for any specific development project(s). Future development using this remaining development allocation is addressed at a program-level in the March 2009 LRDP Amendment Final EIR. Any future projects proposed on campus using this remaining development allocation would be subject to project-specific environmental review pursuant to CEQA.

References

This section identifies sources relied upon for each environmental topic area analyzed in this document (Sections 4.1 through 4.14).

4.0.3 REFERENCES

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4.1 AESTHETICS

This section describes the visual setting of the proposed housing sites and surrounding areas, and evaluates the potential for adverse changes to visual character due to development of the proposed housing projects, the potential for substantial light and glare, and the potential for shade and shadow. Data used to prepare this section was taken from various sources, including site reconnaissance; review of conceptual design information and conceptual visual renderings for the proposed housing projects; and the analysis of campus-wide aesthetics presented in Section 4.1, Aesthetics, in the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR).

Relevant elements of the proposed Project related to aesthetics/visual change include construction of residential structures at five sites on campus. As further described in Section 3.5, Proposed Student Housing Project Characteristics, of this Draft SEIR, and under Threshold 1.3 in this section, the proposed housing projects would include mid- and high-rise buildings ranging from 122,000 gross square feet (gsf) to 650,000 gsf. The proposed architecture would maintain continuity with UCLA campus architecture as appropriate to the context and materials of the existing built environment of each development site. To construct the proposed housing projects, mature and protected trees would be removed; however, they would be replaced, as required by UCLA policies and the City of Los Angeles Protected Tree Ordinance (as discussed in Section 4.3, Biological Resources).

There were several Notice of Preparation (NOP) comment letters received addressing visual changes and lighting at the Lot 15 site. The Westwood Hills Property Owners Association (WHPOA) indicates that (1) mitigation regarding lighting and landscaping outlined in the Stipulated Agreement of Compromise and Order entered into between the WHPOA and The Regents of the University of California (The Regents) should be addressed and incorporated into the proposed housing project at Lot 15 and (2) the visual compatibility of the proposed structures with other campus and residential buildings in the area be considered[1]. Two individuals also provided comments that addressed the following issues: (1) consideration of reasonable height limitations, (2) light spill impacts to residential areas off campus. It should be noted that the relationship of the proposed housing project at the Lot 15 site to the provisions of the Stipulated Agreement of Compromise and Order is further discussed in Section 4.9, Land Use and Planning, of this Draft SEIR.

4.1.1 ENVIRONMENTAL SETTING

The baseline condition for purposes of analyzing potential visual impacts is the current environmental setting of the campus, proposed housing sites, and surrounding areas, as described below.

Visual Characteristics of the Campus

A detailed discussion of the visual setting of the campus and surrounding areas is provided in Section 4.1, Aesthetics, of the March 2009 LRDP Amendment Final EIR, and is summarized below, as applicable to the proposed housing projects. The campus is located at the base of the foothills of the Santa Monica Mountains in a highly developed urban environment. A majority of the campus is organized around a series of squares and courtyards linked by pedestrian walkways. The original site plan for the campus shows buildings arranged in the shape of a cross

[1] As a condition of the Stipulated Use Agreement of Compromise and Order, UCLA is to have "*appropriate consultation with the community"* in advance of any Regental consideration to modify the Order. Accordingly, the University has had five (5) non-CEQA related meetings with the WHPOA to discuss the development of the Lot 15 site (currently located within the benign use area).

along the east-west and north-south axes, which formed the original basis for the orientation of landscaped open areas. The March 2009 LRDP Amendment Final EIR includes a detailed description of the visual characteristics of the campus, including campus landscaping; open spaces on campus, including campus-designated "preserves", recreational open spaces, formal open spaces, and campus entries; and campus edge conditions. Following is a summary of these visual characteristics and relevance to the proposed housing sites.

- **Campus Landscaping.** Landscaping of the campus began in 1925, with approximately 3,600 trees planted by 1928. Along with pedestrian pathways and open areas, ornamental landscaping continues to complement the different architectural styles found on campus. Several areas of lush landscaping are found within the University's grounds; however, the majority of the plant life on the campus is ornamental rather than native, and most vegetation has been introduced coincident with the development of buildings. Each of the proposed housing sites contains ornamental landscaping, including mature trees, as further described in Section 4.3, Biological Resources, of this Draft SEIR.
- **Open Areas.** Open spaces at UCLA—which primarily consist of plazas, courts, gardens, walkways, recreational areas, campus entries, and other visual resources—are essential components of the aesthetic and social life of the campus. Figure 4.1-4, Open Space and Pedestrian Pathways, of the March 2009 LRDP Amendment Final EIR, illustrates various significant open spaces located throughout the campus.

  With respect to the proposed housing sites, the Lot 15 site is located east of the Sycamore Park, which is designated recreational open space; this open space area includes tennis courts, a pitch and putt golf facility, and lawn areas. The Bradley site is located north of the designated campus entry at Strathmore Drive and Gayley Avenue; west of Spaulding Field, which is an important athletic practice field; and in the vicinity of a designated east-west pedestrian pathway, which starts at the campus entry south of the project site. The Drake Stadium site is at the Drake Track and Field Stadium, which provides arena seating for events held at Marshall Field, and is west of campus-designated recreational open space (including Marshall Field, the Intramural Field, and the North Athletic Field). The Drake Stadium site itself is located within campus-designated recreational open space. In addition, the Drake Stadium site is located adjacent to and north of Bruin Walk, a campus-designated pedestrian pathway, and is visible from various campus-designated open space "preserves" (e.g., Wilson Plaza, Dickson Plaza, and Janss Steps). The relationship of these sites to the campus-designated open areas is further discussed for each site below. The Warren Hall and UNEX sites are not located in the vicinity of, or otherwise visible from, campus-designated open areas.
- **Edge Conditions.** Most of the main campus edges, including the western and northern edges near the Lot 15, Bradley, and Drake Stadium sites, are heavily landscaped with mature trees and shrubs. These landscaped buffers screen campus buildings from adjacent streets and complement the adjacent residential areas.

Scenic Vistas

Views of scenic vistas may be generally described in two ways: panoramic views (visual access to a large geographic area for which the field of view can be wide and extend into the distance) and focal views (visual access to a particular object, scene, setting, or feature of interest).

Examples of panoramic views include urban skylines, valleys, mountain ranges, or large bodies of water. Views of the Santa Monica Mountains may be available from some of the taller buildings along Wilshire Boulevard and within the campus itself. However, from many of these vantage points, views are at least partially blocked by surrounding development. In addition, visible

portions of the Santa Monica Mountains are developed with residential and commercial land uses. There are no panoramic views of a pristine undeveloped mountain range from the UCLA campus. While views of the campus would not typically be considered an urban skyline, the campus is unique when viewed from off-campus locations due to the predominance of landscaping in an otherwise urban area, and the general consistency of the architectural palette. Panoramic views of the campus are held from some of the high-rise buildings along the Wilshire Corridor, from other more distant locations, such as the Getty Museum, as well as from residences at higher elevations to the north of Sunset Boulevard. There are no panoramic views of large bodies of water or valleys from any location on campus.

As described on page 4.1-11 of the March 2009 LRDP Amendment Final EIR, focal views include views of natural landforms, public art/signs, and visually important structures, such as historic buildings. Focal views on campus include views of outdoor public art spaces and historic buildings (located primarily in the historic core of the Core zone of the campus). Focal views applicable to the proposed housing sites are discussed below.

Visual Characteristics of the Proposed Housing Sites and Surrounding Areas

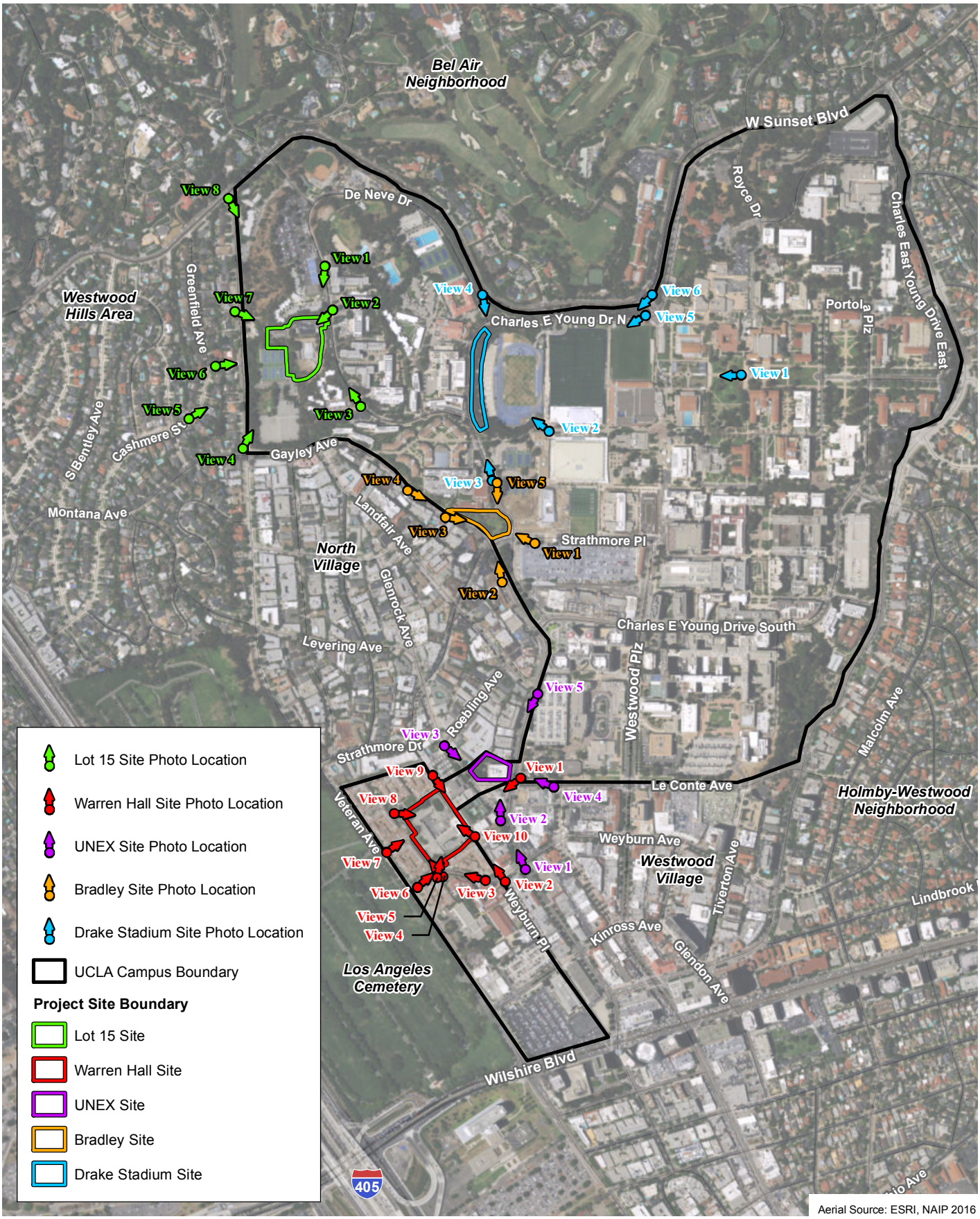
The existing visual character of the proposed housing sites and immediately surrounding areas (on- and off-campus) is described below. Figure 4.1-1 provides an aerial overview of the campus, depicts the five proposed housing sites, and identifies the location that photographs were taken for each site. Each of the sites has distinct visual characteristics, as shown in the site photographs provided in Figures 4.1-2 through 4.1-6, and described below.

Lot 15 Site

On-Campus Views

The Lot 15 site is located near the western edge of the Northwest zone, which consists of hilly terrain that includes the highest elevations on the campus. Elevations in the Northwest zone range from 320 feet above mean sea level (msl) to approximately 560 feet above msl, with a general downward slope from northwest to southeast. The highest point on campus is Hedrick Hall, which is located in the central portion of the Northwest zone, east of the Lot 15 site. The hilly terrain includes large stands of trees and provides long-range views from several vantage points, internal and external to campus.

Elevations at the Lot 15 site range from approximately 513 feet above msl at the upper pad, which is currently used for surface parking and a portable office structure, to 496 feet above msl at the lower pad, which is currently occupied by 3 single-story buildings (including the Ornamental Horticulture buildings and a greenhouse). The Lot 15 site is generally at a lower elevation compared to development to the north and east and sits at a higher elevation than development to the south and west. Existing vegetation is a prominent visual feature of this site (as shown in the site photographs) and consists of mature trees and ornamental vegetation. The Lot 15 site is located in a transitional area between the dense student housing developments east of De Neve Drive, to the low-rise Hitch Suites and Saxon Suites to the north and south of the site, respectively, and ultimately to Sycamore Park (tennis courts, pitch and putt golf practice area, and lawn areas), and undeveloped areas at lower elevations adjacent to Veteran Avenue. It should be noted that Sycamore Park is identified as a campus Recreational Open Area in the Existing LRDP (as shown on Figure 4.1-4 of the March 2009 LRDP Amendment Final EIR).



Aerial Photograph and Photo Key Index

Figure 4.1-1

UCLA LRDP Amendment (2017) and Student Housing Projects

N W E S

1,000 500 0 1,000 Feet

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Although the Lot 15 site is surrounded by residential and recreational uses on campus, mature trees and landscaping and topography provide a physical and visual buffer. Due to the height of surrounding urban development, mature trees and other vegetation, as well as the change in elevation across the site and in the area, views of the site are limited to vantage points within the site or from immediately adjacent vantage points. The existing visual character of the Lot 15 site and surrounding areas, as viewed from surrounding on-campus vantage points, is depicted in the site photographs provided in Figures 4.1-2a through 4.1-2d and described below.

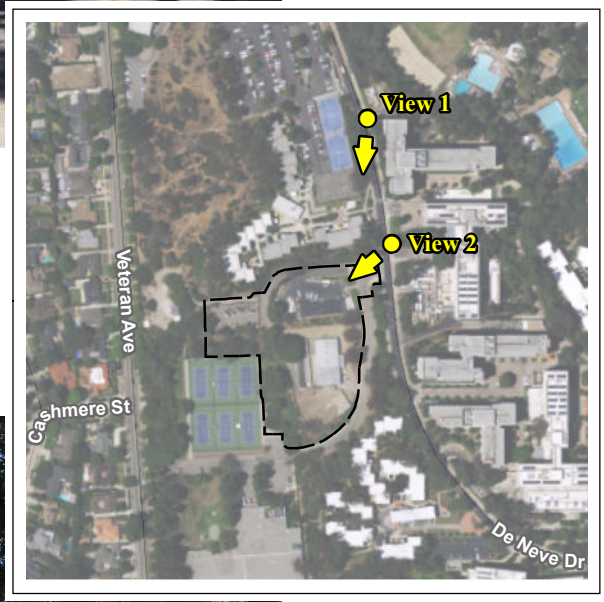
- **Views 1 and 2 – Views to the South and Southwest from De Neve Drive.** These photographs (Figure 4.1-2a) are representative of the views experienced by pedestrians and bicyclists traveling south on De Neve Drive, northeast of the Lot 15 site (southbound vehicular traffic is not allowed). Both photographs demonstrate that views along De Neve Drive are dominated by mature trees and landscaping; distant background views are obstructed. Traveling south on De Neve Drive from the north, views into the site are obstructed (refer to View 1). At the entrance to Parking Lot 15 (View 2), there are views into the site; however, due to the change in topography and extent of vegetation, there are only partially obstructed views of the existing uses.
- **View 3 – View to the Northwest from De Neve Drive.** This photograph (Figure 4.1-2b) is representative of the views experienced by pedestrians, bicyclists, and motorists traveling north on De Neve Drive between Saxon Suites and Rieber Hall. Due to the topography, the density of trees and other vegetation, intervening development, and the orientation of De Neve Drive, there are no views of the site from vantage points farther to the south or east along De Neve Drive. From this vantage point, views of the existing site are obstructed by Saxon Suites and the mature trees that line the street, which also obstruct distant views.

Off-Campus Views

As shown on Figure 4.1-1, the Westwood Hills residential area is located to the west of the Lot 15 site, across Veteran Avenue. Consistent with the physical objective outlined in the Existing LRDP to maintain a landscaped buffer along the western perimeter of the campus (identified as Program, Practice and Procedure [PP] 4.1-2[d] in the March 2009 LRDP Amendment Final EIR), extensive landscaping (mature trees and other vegetation) is provided on campus along Veteran Avenue. This provides a visual and spatial buffer between the campus, including the Lot 15 site and surrounding area, and the Westwood Hills neighborhood, as demonstrated by the site photographs described below.

- **View 4 – View to the Northeast from Veteran Avenue.** View 4 (Figure 4.1-2b) is representative of the views experienced by pedestrians, bicyclists, and motorists traveling north on Veteran Avenue, west of the Lot 15 site, and shows that this portion of Veteran Avenue is lined with mature trees and other vegetation, consistent with UCLA's policy to maintain a landscaped buffer along the western perimeter of the campus. This photograph was taken adjacent to the Southern Regional Library and near Sycamore Park, which are located to the southwest of the site. The dense mature trees and vegetation lining Veteran Avenue, as well as those associated with the library and park obstruct views of the Lot 15 site.
- **Views 5 and 6 – Views to the Northeast and East from Cashmere Street.** These photographs (Figure 4.1-2c) are representative of the views experienced by homeowners, pedestrians, and motorists in the residential neighborhood west and southwest of the Lot 15 site, respectively. View 5 shows that there are limited views of the upper levels of Hedrick Hall and Hedrick Summit, the tallest buildings in the vicinity of the Lot 15 site, from this vantage point. This photograph also shows that the trees within the residential

View 1



View 2

Aerial Source: ESRI, NAIP 2016

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Lot 15 Site Photos

Figure 4.1-2a

UCLA LRDP Amendment (2017) and Student Housing Projects

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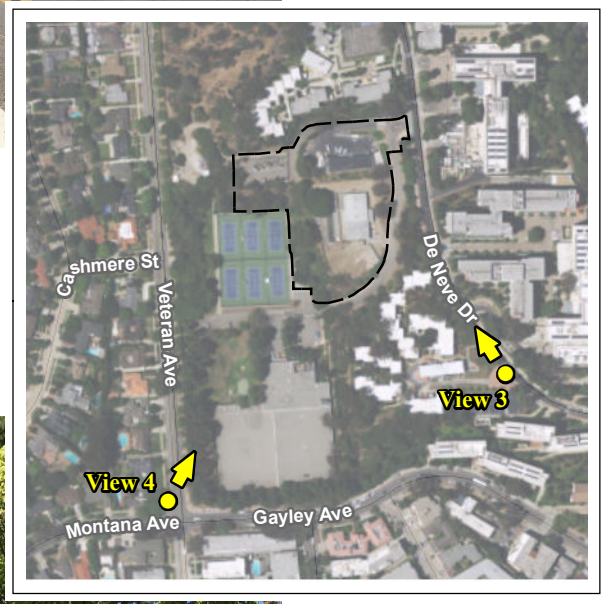
View 3



View 4

Aerial Source: ESRI, NAIP 2016

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Lot 15 Site Photos

Figure 4.1-2b

UCLA LRDP Amendment (2017) and Student Housing Projects

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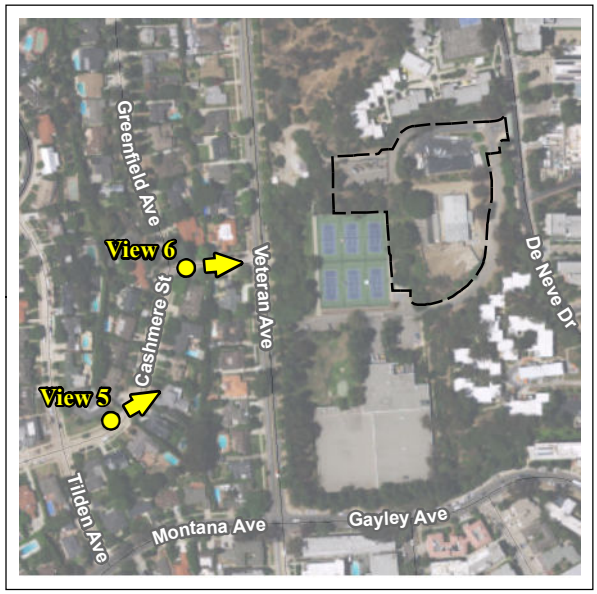
View 5



View 6

Aerial Source: ESRI, NAIP 2016

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Lot 15 Site Photos

Figure 4.1-2c

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View 7

View 8

Aerial Source: ESRI, NAIP 2016

Lot 15 Site Photos

Figure 4.1-2d

UCLA LRDP Amendment (2017) and Student Housing Projects

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neighborhood and the trees near the site obstruct views of the Lot 15 site from Cashmere Street. View 6 looks directly into the site from the entrance of the residential neighborhood. Current views from this vantage point show that the existing mature trees in this portion of the campus, and along Veteran Avenue, obstruct views of the Lot 15 site. There are no distant views from these vantage points.

- **Views 7 and 8 – Views to the South-Southeast from Veteran Avenue.** These photographs (Figure 4.1-2d) are representative of the views experienced by pedestrians, bicyclists, and motorists traveling south on Veteran Avenue from vantage points generally northwest and north of the Lot 15 site. These photographs show that this portion of Veteran Avenue is also lined with trees and other vegetation, and views into the campus are mostly obstructed. There are limited views of the Hitch Residential Suites in the background of View 7, and obstructed views of the Krieger Childcare Center from View 8. There are no distant views from these vantage points.

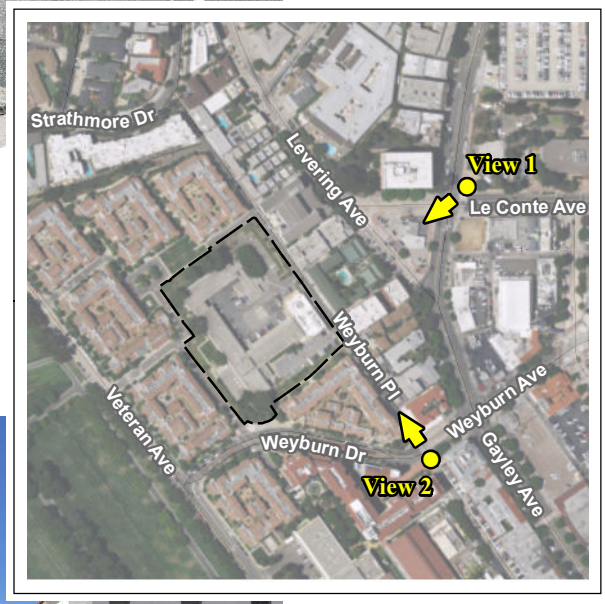
Warren Hall Site

The Warren Hall site is located in the northern portion of the Southwest zone, adjacent to the Bridge zone, and is surrounded by dense urban development consisting of low- and mid-rise on- and off-campus residential uses. There are no campus-designated open space areas, pedestrian pathways, or campus entries in the immediate vicinity of the Warren Hall site. Various types of trees and ornamental landscaping have been planted throughout the area to enhance the visual quality. The topography in the vicinity of the site is varied, with elevations ranging from approximately 369 feet above msl on the edge of the site adjacent to Weyburn Terrace and 386 feet above msl at the edge of the site adjacent to Weyburn Place.

The Warren Hall site is currently developed with three buildings: the existing two-level Warren Hall constructed in 1961, which is an example of Midcentury Modern architecture; the two-level greenhouse; and, the one-level Hillblom Islet Research Center constructed in 2004, which is in the southeast portion of the site adjacent to Weyburn Place. Due to the density and height of surrounding urban development, mature trees and other vegetation, as well as the change in elevation across the site and in the area, the most prevalent views of the Warren Hall site are from Weyburn Avenue, Weyburn Place, and South Lane. The existing visual character of the Warren Hall site and surrounding areas, as viewed from surrounding vantage points, is depicted in the site photographs provided in Figures 4.1-3a through 4.1-3e and described below.

- **View 1 – View to the Southwest from the Intersection of Gayley Avenue and Le Conte Avenue.** View 1 (Figure 4.1-3a) is representative of the view experienced by pedestrians, bicyclists, and motorists traveling west along Le Conte Avenue, northeast of the Warren Hall site. This photograph demonstrates that views of the site and on-site development are currently obstructed by the existing residential development along Levering Avenue in the background. This view also shows the existing varying architectural styles in the vicinity of the Warren Hall site. There are no distant views from this vantage point.
- **View 2 – View to the Northwest from the Intersection of Weyburn Avenue and Weyburn Place.** This photograph (Figure 4.1-3a) is representative of the views experienced by pedestrians, bicyclists, and motorists traveling north along Weyburn Place. This shows the change in topography from Weyburn Avenue to the Warren Hall site and the density of development in the area. Due to the topography and intervening development and vegetation, there are no views of the site from this vantage point.
- **View 3 – View to the Northwest from Weyburn Drive.** View 3 (Figure 4.1-3b) is representative of the views experienced by pedestrians, bicyclists, and motorists traveling

View 1



View 2

Aerial Source: ESRI, NAIP 2016

Warren Hall Site Photos

Figure 4.1-3a

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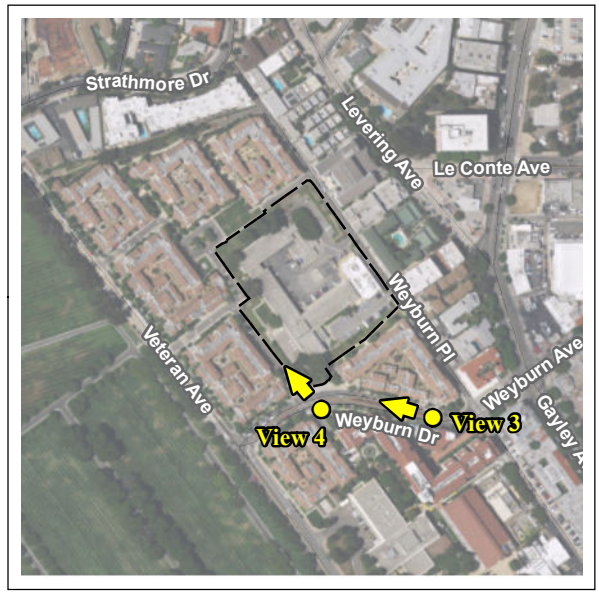
View 3



View 4

Aerial Source: ESRI, NAIP 2016

Warren Hall Site Photos

Figure 4.1-3b

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View 5

View 6

Aerial Source: ESRI, NAIP 2016

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Warren Hall Site Photos

Figure 4.1-3c

UCLA LRDP Amendment (2017) and Student Housing Projects

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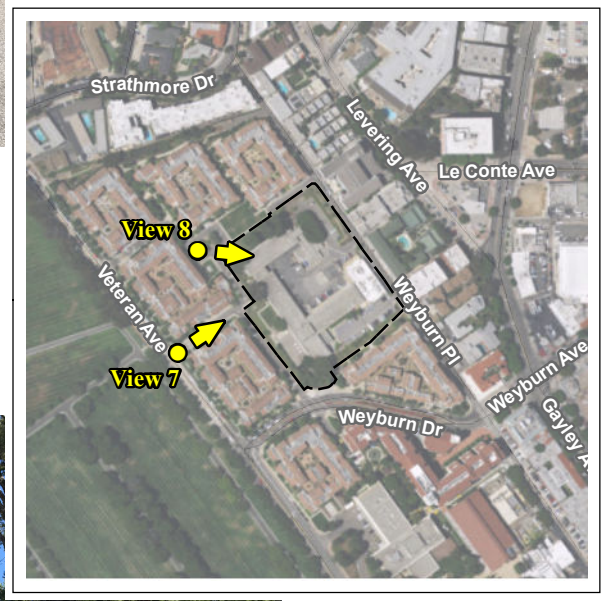
View 7



View 8

Aerial Source: ESRI, NAIP 2016

Warren Hall Site Photos

Figure 4.1-3d

UCLA LRDP Amendment (2017) and Student Housing Projects

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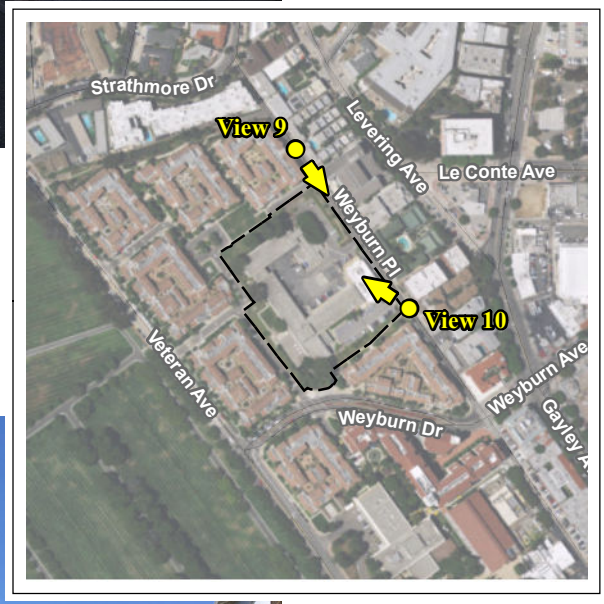
View 9



View 10

Aerial Source: ESRI, NAIP 2016

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Warren Hall Site Photos

Figure 4.1-3e

UCLA LRDP Amendment (2017) and Student Housing Projects

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northwest on Weyburn Avenue, south of the Warren Hall site. The building architecture and streetscape is representative of the visual character of the Weyburn student housing that surrounds the site. There are background views of additional housing; however, there are no distant views from this vantage point.

- **Views 4 and 5 – Views to the Northwest and Northeast from Weyburn Avenue.** These photographs (Figures 4.1-3b and 4.1-3c) are representative of the views experienced by pedestrians, bicyclists, and motorists traveling along Weyburn Avenue near Weyburn Terrace, at the southern corner of the Warren Hall site. These photographs show the landscaped slope in the southern portion of the site which obstructs views into the site and of existing buildings. The residential uses shown in View 4 on the east side of Weyburn Terrace are also representative of the existing Weyburn student housing development. There are no background or distant views from this vantage point.
- **View 6 – View to the Northwest from Weyburn Avenue.** Similar to View 3, View 6 (Figure 4.1-3c) is representative of the view experienced by pedestrians, bicyclists, and motorists traveling east on Weyburn Drive, southwest of the Warren Hall site. The building architecture and streetscape is representative of the visual character of the Weyburn student housing that surrounds the site; in the foreground are the Olive Court Apartments and in the background are the Sycamore Court Apartments. Both Views 3 and 6 demonstrate the gradual change in topography in this area. There are background views of additional housing; however, there are no distant views from this vantage point.
- **View 7 – View to the Northeast from Veteran Avenue.** This photograph (Figure 4.1-3d) is representative of the view experienced by pedestrians, bicyclists, and motorists at the intersection of Veteran Avenue and South Lane (gated access road to the Weyburn student housing complex). This photograph further demonstrates the consistent visual character of the residential uses in this complex. As shown, there is an incline to the Warren Hall site. The north wing of the existing Warren Hall building is visible in the background view; distant views beyond the existing residential development and the Warren Hall site are obstructed.
- **View 8 – View to the Southwest from the Weyburn Terrace Apartments.** View 8 (Figure 4.1-3d) is representative of the views from the vantage points north of the site. The existing Warren Hall building is in the foreground and obstructs views beyond the site.
- **Views 9 and 10 – Views to the Southeast and Northwest along Weyburn Place.** These photographs (Figure 4.1-3e) demonstrate the visual character of the area east of the Warren Hall site as viewed from vantage points along Weyburn Place (alley). View 9 shows the landscaping along the eastern perimeter of the site on the right side of the photograph in the middleground view; the residential structures that surround the site are prominent in the foreground view. However, the views of high-rise buildings along Wilshire Boulevard are a notable visual feature in the background. View 10 looking north toward the Warren Hall site (with the Larry L. Hillblom Islet Research Center in the foreground on the left side of the photograph) demonstrates the gradual slope up Weyburn Place and the prominence of existing residential uses in the viewshed on both sides of the alley. These photographs demonstrate that the height and architecture of the buildings vary and there is limited vegetation along the alley. The heights of buildings along Weyburn Place appear higher as the alley slopes up (and ground elevation increases). The alley provides a view corridor to the north; however, distant views are obstructed by existing development and the change in elevation.

UNEX Site

The UNEX site is located in the center of the Bridge zone, which forms a physical land connection between the main campus zones and the Southwest zone. As demonstrated by the site photographs discussed below, and the photograph of View 1 for the Warren Hall site (Figure 4.1-3a) taken from a vantage point near the UNEX site, this site is surrounded by dense urban development with varying architectural styles and building heights, including on-campus academic and residential uses and off-campus residential and commercial uses in Westwood Village. As previously discussed, there are no campus-designated open space areas, pedestrian pathways, or campus entries within the immediate vicinity of the UNEX site; the intersection of Westwood Plaza and Le Conte Avenue approximately 0.2 mile to the east is a designated campus entry, and there are obstructed views of the UNEX Building in the background.

The existing eight-level UNEX building and mature trees and vegetation that line the residential streets are prominent visual features in the vicinity of the UNEX site, and notably visible to pedestrians, bicyclists, and motorists traveling along Gayley Avenue, Levering Avenue, and Le Conte Avenue near the site. The elevation at this site ranges from approximately 340 feet above msl in the southeast corner to approximately 378 feet above msl at the top of the slope in the northern portion of the site. The existing visual character of the UNEX site and surrounding areas, as viewed from surrounding vantage points, is depicted in the site photographs provided in Figures 4.1-4a through 4.1-4c and described below. It should be noted that, due to the topography in the area, the mature trees and vegetation along the roadways, intervening development, and the alignment of the roadways in the area, the UNEX Building is increasingly less prominent or no longer visible beyond the vantage points where the photographs were taken.

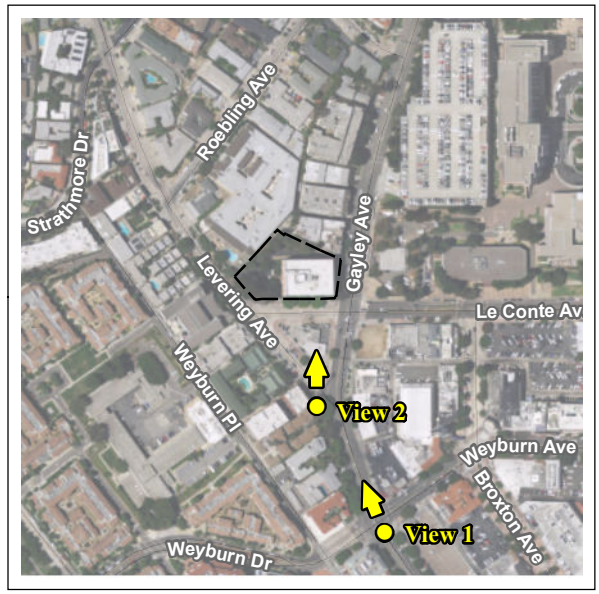
- **Views 1 and 2 – Views to the Northwest and North from Gayley Avenue and Levering Avenue.** These photographs (Figure 4.1-4a) are representative of the views experienced by individuals traveling north on Gayley Avenue and Levering Avenue, south of the UNEX site. Both views demonstrate that UNEX is a prominent visual feature in this area with low-rise commercial buildings in the foreground. Mature trees along Gayley Avenue and Levering Avenue largely obstruct views of the primarily residential uses in this area.

- **View 3 – View to the Southeast from Levering Avenue.** This photograph (Figure 4.1-4b) is representative of the views experienced by individuals traveling south on Levering Avenue. As shown, due to mature trees and intervening development, there are only obstructed views of the upper level of the UNEX Building from this vantage point. High-rise buildings along Wilshire Boulevard are visible in the background.

- **View 4 – View to the Northwest from Le Conte Avenue.** View 4 (Figure 4.1-4b) is representative of the views experienced by individuals traveling west on Le Conte Avenue and also demonstrates the visual prominence of the UNEX building and mature trees in this area.

- **View 5 – View to the Southwest from Gayley Avenue at Landfair Avenue.** View 5 (Figure 4.1-4c) is representative of the views experienced by individuals traveling south on Gayley Avenue toward the UNEX site. Existing residential buildings are the visual focus in the foreground and the UNEX Building is visible in the background.

View 1



View 2

Aerial Source: ESRI, NAIP 2016

UNEX Site Photos

Figure 4.1-4a

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View 3

View 4

Aerial Source: ESRI, NAIP 2016

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UNEX Site Photos

Figure 4.1-4b

UCLA LRDP Amendment (2017) and Student Housing Projects

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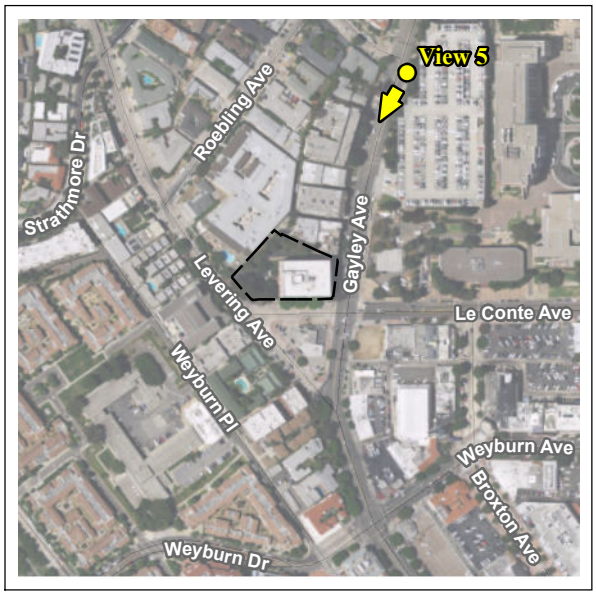
View 5



Aerial Source: ESRI, NAIP 2016

UNEX Site Photos

Figure 4.1-4c

UCLA LRDP Amendment (2017) and Student Housing Projects

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Bradley Site

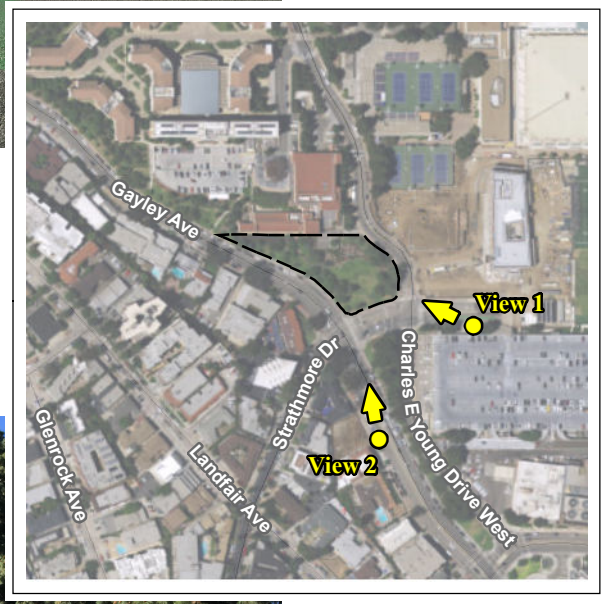
The Bradley site is located in the southeastern corner of the Northwest zone, bordering the Central and Campus Services zones. This site is adjacent to and north of the designated campus entry at Gayley Avenue and Strathmore Drive, and west of, but not visible from Spaulding Field, a recreational open area. The Bradley site consists of an undeveloped landscaped slope (not identified as a formal open space area or open space preserve); existing vegetation consists of trees (including mature trees) and turf located throughout the site and ornamental vegetation located along the eastern and northern edges of the site. Elevations at the site range from approximately 401 feet above msl along the northern site boundary to approximately 368 feet above msl adjacent to Strathmore Drive, along the southeastern site boundary. The site slopes gently to the east, west, and south.

The Bradley site is surrounded by low-and mid-rise on-campus residential, administrative, recreational, and parking uses, and off-campus multi-family residential uses in the North Village. The multi-family housing area of the North Village that is closest to UCLA and the Bradley site accommodates the housing needs of many UCLA students in apartment buildings and fraternities. The North Village area is characterized by dense, low- to mid-rise multi-family buildings of varying heights and masses, on land with varying topography, and mature trees and urban/ornamental landscaping.

The most prevalent views of the Bradley site are from pedestrians, bicyclists, and motorists traveling along Strathmore Drive/Place, Gayley Avenue, and Charles E. Young Drive West near the site. Views from more distant vantage points are partially or wholly obstructed by intervening buildings and trees, as well as local topographic changes. The existing visual character of the Bradley site and surrounding areas, as viewed from surrounding vantage points, is depicted in the site photographs provided in Figures 4.1-5a through 4.1-5c and described below.

- **View 1 – View to the Northwest from Strathmore Place.** This photograph (Figure 4.1-5a) is representative of the view experienced by individuals traveling west on Strathmore Place, southeast of the Bradley site. This photograph shows that the existing site is dominated by mature trees and landscaping, which largely obstruct views of the surrounding development and distant views. The Mo Ostin Basketball Center currently under construction is visible in the foreground, and Dykstra Hall is a prominent visual feature in the background.
- **View 2 – View to the North from Galey Avenue.** This photograph (Figure 4.1-5a) is representative of the view experienced by individuals traveling north on Gayley Avenue. The mature trees that line the street and at the project site, and Dykstra Hall in the background, are prominent visual features from this vantage point.
- **Views 3 and 4 – Views to the Southeast from Gayley Avenue.** These photographs (Figure 4.1-5b) are representative of the views experienced by individuals traveling south on Gayley Avenue. The mature trees along each side of the roadway, along the perimeter of the site, and surrounding Bradley Hall are prominent visual features in the foreground and largely obstruct background views. The Gonda Research Building along Westwood Plaza is partially visible in the background.
- **View 5 – View to the South from Charles E. Young Drive West.** View 5 (Figure 4.1-5c) is representative of the view experienced by individuals traveling south on Charles E. Young Drive West. This photograph demonstrates that the existing mature trees and other vegetation at the site and in surrounding areas is a key visual feature from this vantage point and partially obstructs views of adjacent buildings and distant background views; the

View 1



View 2

Aerial Source: ESRI, NAIP 2016

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Bradley Site Photos

Figure 4.1-5a

UCLA LRDP Amendment (2017) and Student Housing Projects

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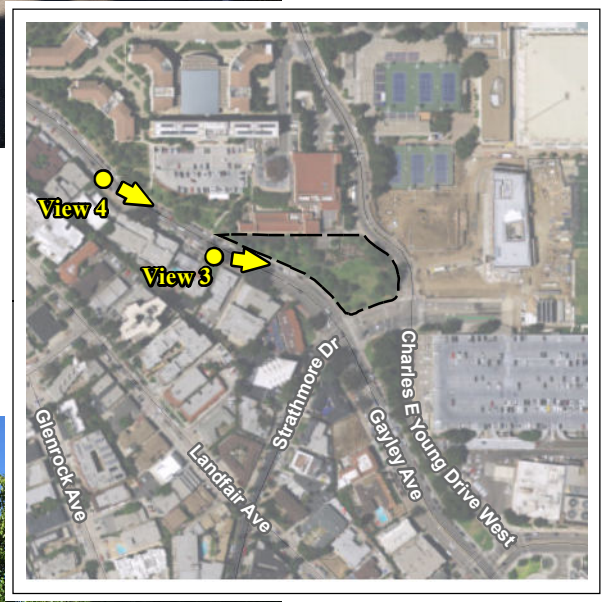
View 3



View 4

Aerial Source: ESRI, NAIP 2016

Bradley Site Photos

Figure 4.1-5b

UCLA LRDP Amendment (2017) and Student Housing Projects

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View 5

Aerial Source: ESRI, NAIP 2016

Bradley Site Photos

Figure 4.1-5c

UCLA LRDP Amendment (2017) and Student Housing Projects

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Mo Ostin Basketball Center currently under construction is visible in the foreground on the left side of the photo.

Drake Stadium Site

The Drake Stadium site is located in the northwest portion of the Central zone, immediately adjacent to the eastern boundary of the Northwest Zone, and south of the northern campus boundary formed by Sunset Boulevard. This visual character of the area to the west of the Drake Stadium site is dominated by dense on-campus student housing structures with various heights and architectural styles. The visual character of the proposed housing site and area to the east is dominated by recreational and athletic facilities (Drake Stadium, Marshall Field, Intramural Field, and the North Athletic Field); these areas are all campus-designated recreational open areas. The elevation at the Drake Stadium concourse is approximately 420 feet above msl. There is an existing landscaped area along the length of the concourse that slopes up from the concourse to Charles E. Young Drive West (the elevation ranges from approximately 420 feet to 442 feet above msl). There are existing mature trees and other vegetation along this slope.

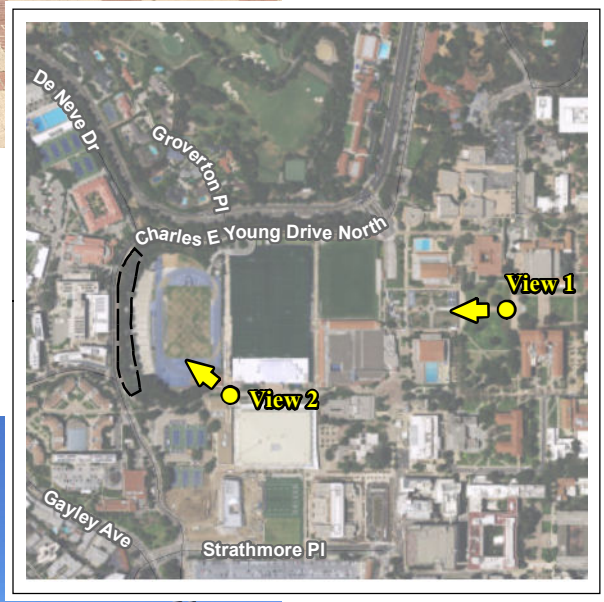
Due to the density and height of the surrounding student housing structures, the presence of mature trees and other vegetation at the site and in the surrounding area (including along Sunset Boulevard), as well as the change in elevation across in the area, views of the site from the south, west, and north are limited to immediately adjacent vantage points. Due to existing landscaping and topography, single-family residences at the lower elevations north of Sunset Boulevard have very limited views, if any, of the campus structures and uses, including the Drake Stadium site. Ascending to higher elevations in the Bel Air neighborhood (refer to Figure 4.1-1), views of the campus are limited by the homes' orientations, elevation, and landscaping. The campus' landscaped buffer and extensive stands of trees in the zone provide visual separation between the campus and the residential land uses to the north.

As further discussed below, the Drake Stadium site is located northwest of and visible from Bruin Walk, an important pedestrian pathway. Additionally, there are views of this proposed housing site from Wilson Plaza, Dickson Plaza, and Janss Steps, which are campus-designated open space preserves to the east. There are also limited or distant views from Bruin Plaza and Meyerhoff Park, which are also campus-designated open space preserves. It should be noted that the student housing developments to the west of the Drake Stadium site, which are taller and at a higher elevation than the existing Drake Stadium, are a prominent visual focus from vantage points to the east.

The existing visual character of the Drake Stadium site and surrounding areas, as viewed from surrounding vantage points, is depicted in the site photographs provided in Figures 4.1-6a through 4.1-6c and described below.

- **View 1 – View to the West from Janss Steps.** This photograph (Figure 4.1-6a) is representative of the views from individuals looking west from the Janss Steps. Drake Stadium and other recreational uses are clearly visible in the background; however, the existing student housing development in the Northwest zone is a prominent visual feature, further in the background, beyond the recreational use, from this vantage point.
- **View 2 – View to the Northwest from Bruin Walk.** This photograph (Figure 4.1-6a) is representative of the views experienced by individuals traveling west along Bruin Walk near Pauley Pavilion. Mature vegetation along Charles E. Young Drive and Bruin Walk is prominent in this viewshed and, with the exception of the upper levels of some buildings, largely obstructs views of the student housing development west of the Drake Stadium site.

View 1



View 2

Aerial Source: ESRI, NAIP 2016

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Drake Stadium Site Photos

Figure 4.1-6a

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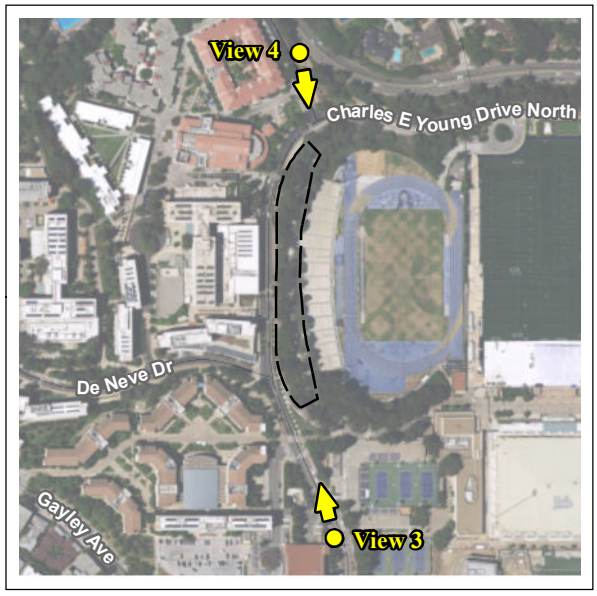
View 3



View 4

Aerial Source: ESRI, NAIP 2016

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Drake Stadium Site Photos

Figure 4.1-6b

UCLA LRDP Amendment (2017) and Student Housing Projects

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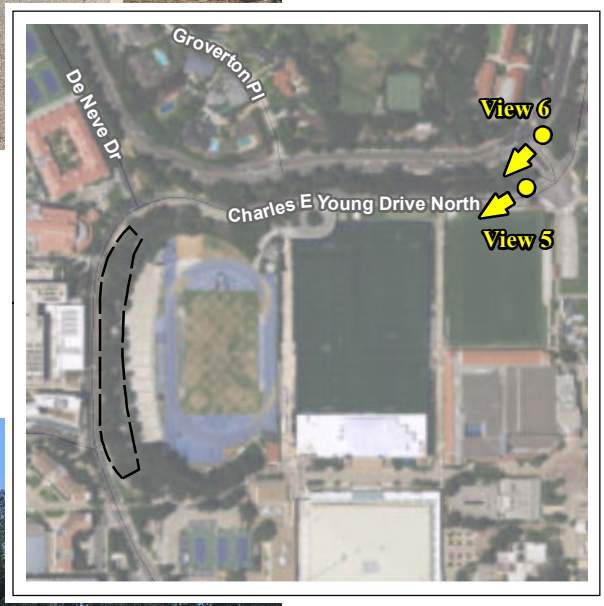
View 5



View 6

Aerial Source: ESRI, NAIP 2016

Drake Stadium Site Photos

Figure 4.1-6c

UCLA LRDP Amendment (2017) and Student Housing Projects

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- **Views 3 and 4 – Views to the Site from the North and South.** These photographs (Figure 4.1-6b) depict the views from vantage points south and north of the Drake Stadium site. View 3 depicts the view from Charles E. Young Drive West looking north. From this vantage point, the mature trees lining the roadway obstruct views of the site and any potential distant off-campus views. There are limited views of the existing student housing development from this vantage point. View 4 depicts the view from a pathway along Sunset Boulevard, looking south toward the location of the Drake Stadium site. As shown, there are currently no views of the site from this vantage point due to the mature trees and other vegetation that line the roadways.
- **Views 5 and 6 – Views to the Southwest from Sunset Boulevard and Charles E. Young Drive North.** These photographs demonstrate the visual character of the area generally east-northeast of the Drake Stadium site and the visual screening provided from the landscape buffer along Sunset Boulevard. View 5 looks southwest toward Drake Stadium from the intersection of Westwood Plaza and Charles E. Young Drive North and represents views experienced by individuals traveling west on Charles E. Young Drive North. This photograph shows that there are clear views of the Drake Stadium site and surrounding development, including student housing and Pauley Pavilion from this vantage point, which is internal to campus. Views of the site are only partially obstructed by the trees in the foreground and the structure in the middleground of the photograph. View 6 also looks southwest toward Drake Stadium, but was taken from the intersection of Westwood Plaza and Sunset Boulevard, which is approximately 160 feet from the photo location for View 5 and along the campus perimeter. This photograph shows that the campus perimeter trees (also seen in the foreground of View 5) obstruct views into the campus, including the Drake Stadium site.

Existing Lighting and/or Glare

The campus is located in an urban area; therefore, there is currently substantial nighttime lighting on campus and in much of the area surrounding the campus. Light and glare from on- and off-campus uses is generated from parking lots/structures, street lights, building accents, lights along pathways and at the entrances of buildings, and lighting adjacent to buildings and building entrances installed for safety and security. On-campus athletic and recreational facilities also include athletic field lighting to allow for evening activities and events. Following is a brief description of the exterior lighting provided at and near the proposed housing sites:

- **Lot 15 Site.** There are existing parking lot and street lights at this site, as well as security lighting at the buildings and storage areas. The surrounding residential uses also provide lighting as necessary for safety and security. Vehicle headlights are another existing light source.
- **Warren Hall Site.** Existing sources of light at the Warren Hall site include street lights, vehicle headlights, and interior and exterior lighting from parking areas and the existing buildings (at the site and surrounding the site).
- **UNEX Site.** There is a significant amount of existing ambient light at the UNEX site and in the immediately surrounding area. The UNEX site is located in an area developed with various residential, academic/research, and commercial uses; existing sources of light include street lights, vehicle headlights, and interior and exterior lighting from existing buildings, including a 24/7 service station across from the site.
- **Bradley Site.** Existing sources of light near the Bradley site include street lights and vehicle headlights along the roadways that border the site on three sides, and interior and exterior lighting from existing buildings surrounding the site (including Parking Structure 8

to the southeast). Additionally, athletic lighting is provided at the LA Tennis Center and Spaulding Field located northeast and east of the site, respectively.

- **Drake Stadium Site.** The primary source light at the Drake Stadium site under existing conditions is athletic field lighting at the stadium and adjacent facilities. There is also existing lighting associated with adjacent roadways, pathways, and buildings.

Existing sources of daytime glare on campus and at the proposed housing sites are primarily related to reflections from windows and metal or glass building materials; however, per UCLA standard practices, buildings are finished with non-reflective surfaces and do not provide a significant source of daytime glare. The landscaping around and between buildings, consisting of stands of trees as well as other foliage, serves as a visual screen that further reduces glare from the existing buildings.

4.1.2 REGULATORY FRAMEWORK

There are no federal or State aesthetics regulations applicable to the proposed housing projects.

University of California

Campus Design Policies

As identified in the March 2009 LRDP Amendment Final EIR, prior to design approval, the UCLA campus utilizes a design review process for all proposed campus development projects. This design process is performed through various campus committees and includes evaluation of factors such as the proposed site, compatibility with adjacent uses, building mass and form, roof profile, architectural details and fenestration,[2] texture, color, quality of building materials, landscaping, and focal views that could be affected by each proposed project. The campus design review process ensures that the physical planning objectives for the campus are incorporated into each project proposal to the maximum extent feasible, and is incorporated into the proposed housing projects.

UCLA Physical Design Framework

The UCLA Physical Design Framework (Framework) prepared in July 2009 (UCLA 2009b) describes the approach for development of buildings, infrastructure, and landscape on the campus within the context of the physical planning objectives contained in the Existing LRDP. It also describes the physical design standards that guide new development to enhance the unique campus aesthetic within the constraints of a fully developed urban environment. The Framework describes the design review process that ensures that the LRDP objectives and Physical Design Standards are embodied in all new projects. The Framework will be used to ensure compatibility of new development with the existing built environment while continuing to strengthen the vibrant identity and design vernacular of the UCLA campus.

State

Senate Bill 743 – Transit Oriented Development

Governor Brown signed Senate Bill 743 in September 2013, which made several changes to the California Environmental Quality Act (CEQA) for projects located in areas served by transit (i.e., transit-oriented development or TOD). With respect to this section of the Draft SEIR, SB 743 Public Resources Code section ~~20199~~ 21099, subdivision (d) provides that aesthetic impacts shall

[2] The design and disposition of windows and other exterior openings of a building.

not be considered significant impacts on the environment, in some circumstances. Specifically, Section ~~20199~~ 21099, subdivision (d), provides that aesthetics impacts shall not be considered significant CEQA impacts of a project that meets the following criteria:

1. The project is a residential, mixed-use residential, or employment center project.
2. The project is located on an infill site[3] within a transit priority area.[4]

The proposed Warren, UNEX, and Bradley housing sites meet these criteria. Criterion 1 is met due to the residential nature of proposed development. Criterion 2 is met because these sites are considered infill sites and are located in a transit priority area (as further discussed in Section 4.9, Land Use and Planning, of this Draft SEIR and shown on Figure 4.9-3). Due to consistency with the SB 743 criteria, potential aesthetic impacts are not considered to be impacts under CEQA for the Warren, UNEX, and Bradley sites. However, this section includes an assessment of the visual changes from development of these sites for informational purposes.

4.1.3 PROJECT IMPACTS AND MITIGATION

Methods

The analysis of visual impacts focuses on the nature and magnitude of changes in the visual character at the proposed housing sites with implementation of the proposed housing projects, including the visual compatibility of adjacent uses and public vantage points where visual changes would be evident. Site reconnaissance by Psomas personnel on April 20 and May 3, 2017, documented the existing visual character and context of the project sites and surrounding area (as described above). Additionally, computer-generated conceptual simulations were prepared for the Lot 15 site, and conceptual renderings were prepared.

Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, a project will normally have a significant adverse environmental impact related to aesthetics if it will:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

[3] Infill site means a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from parcels that are developed with qualified urban uses. Pursuant to Section 21072 of the Public Resources Code, "qualified urban use" means any residential, commercial, public institutional, transit or transportation passenger facility, or retail use, or a combination of those.

[4] Transit Priority Area is defined as an area that is within 0.5-mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in an adopted federal Transportation Improvement Program.

Additionally, the Regents do not have an established threshold for shade and shadow effects. For purposes of this analysis, consistent with the threshold in the March 2009 LRDP Amendment Final EIR, a project will normally have a significant adverse environmental impact if it will:

- Cause shade and/or a shadow on currently un-shaded, shadow-sensitive uses off campus.

Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 LRDP Amendment Final EIR

The following applicable Programs, Practices, and Procedures (PPs) and Mitigation Measures (MMs) were adopted as part of the March 2009 LRDP Amendment Final EIR and are incorporated as part of the proposed Project and assumed in the analysis presented in this section.

PP 4.1-1(a) *The design process shall evaluate and incorporate, where appropriate, factors including, but not necessarily limited to, building mass and form, building proportion, roof profile, architectural detail and fenestration, the texture, color, and quality of building materials, focal views, pedestrian and vehicular circulation and access, and the landscape setting to ensure preservation and enhancement of the visual character and quality of the campus and the surrounding area. Landscaped open space (including plazas, courts, gardens, walkways, and recreational areas) shall be integrated with development to encourage use through placement and design.*

PP 4.1-2(b) *The architectural and landscape traditions that give the campus its unique character shall be respected and reinforced.*

PP 4.1-2(c) *Projects proposed under the 2002 LRDP shall include landscaping*.

PP 4.1-2(d) *The western, northern, and eastern edges of the main campus shall include a landscaped buffer to complement the residential uses of the surrounding community and to provide an attractive perimeter that effectively screens and enhances future development.*

MM 4.1-3(a) *Design for specific projects shall provide for the use of textured non-reflective exterior surfaces and non-reflective glass.*

MM 4.1-3(b) *All outdoor lighting shall be directed to the specific location intended for illumination (e.g., roads, walkways, or recreation fields) to limit stray light spillover onto adjacent residential areas. In addition, all lighting shall be shielded to minimize the production of glare and light spill onto adjacent uses.*

MM 4.1-3(c) *Ingress and egress from parking areas shall be designed and situated so the vehicle headlights are shielded from adjacent uses. If necessary, walls or other light barriers will be provided.*

In addition, the following policy from Section 4.8, Land Use and Planning, of the 2009 Final EIR is applicable to the aesthetics analysis:

PP 4.8-1(a) *Design future development on the southern edge of the main campus to enhance the campus interface with Westwood Village.*

Impact Analysis

Threshold 1.1	Would the project have a substantial adverse effect on a scenic vista?

The analysis of Impact 4.1-1 in Section 4.1, Aesthetics, of the March 2009 LRDP Amendment Final EIR concluded that, with continued implementation of PPs 4.1-1(a), 4.1-1(b), 4.8-1(d) (from the Land Use and Planning section), and 4.4-1(b) (from the Cultural Resources section), the remaining development allocation contemplated by the 2002 LRDP, as amended in March 2009, would result in a less than significant impact to scenic vistas.

Panoramic Views

As concluded through the Initial Study process for the March 2009 LRDP Amendment Final EIR, implementation of remaining development on campus would not impact any panoramic views that include the campus because new development would be subject to the requirements of PP 4.1-1(a) and PP 4.1-2(a) through PP 4.1-2(d) identified above that relate to the provision of landscaping and building design (e.g., height, massing, and other features). The proposed housing projects, which are located in and near previously developed areas on campus, would also incorporate PP 4.1-1(a) and PP 4.1-2(a) through PP 4.1-2(d), and would not have impacts on panoramic views, consistent with the finding in the March 2009 LRDP Amendment Final EIR.

Focal Views

As previously discussed, focal views on campus include views of outdoor public art spaces and historic buildings (located primarily in the historic core of the Core zone of the campus). The March 2009 LRDP Amendment Final EIR states the following (UCLA 2009a):

> . . . if future projects are proposed adjacent to focal areas (e.g., the Franklin D. Murphy Sculpture Garden or other public art spaces such as the Rolfe Sculpture Courtyard) or near the campus historic core, the design process required by PP 4.1-1(a) shall ensure that (1) impacts of the proposed structure(s) on views of these spaces are considered in the siting and design of building and (2) design features are incorporated into individual projects so that focal views are preserved and/or enhanced.

The closest public art space to any of proposed housing sites is the Rolfe Sculpture Courtyard. This courtyard is created by Rolfe Hall, which is U-shaped. The closest of the sites to the Rolfe Sculpture Courtyard is the Drake Stadium site, which is approximately 0.4 mile to the east. Views into or out of the Rolfe Sculpture Courtyard are obstructed by Rolfe Hall (to the east, south, and west) and would not be impacted by implementation of the proposed housing projects.

There are existing eligible historic resources in the vicinity of each of the proposed housing sites, as discussed in Section 4.4, Cultural and Tribal Cultural Resources, of this Draft SEIR. However, the proposed housing projects and their nearby historic resources are not within or near the campus historic core and would not be considered to be within a focal view per the definition above. Notably, the Warren Hall Building, which would be removed with implementation of the proposed housing project at this site, is in the Southwest zone of the campus and not near or part of the historic core. Removal of this building would not impact any focal views. Therefore, the proposed housing projects would not have an adverse effect on a focal view, consistent with the finding in the March 2009 LRDP Amendment Final EIR.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would have no impact related to substantial adverse effects on a scenic vista.

Threshold 1.2	Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

Implementation of the remaining development allocation under the 2002 LRDP, as amended in March 2009, was determined to have no impact related to State scenic highways through the Initial Study process and was not carried forward for further discussion in the March 2009 LRDP Amendment Draft EIR.

The UCLA Campus is located in the City of Los Angeles in an area that is predominantly urban in character. No State-designated scenic highways are located near the UCLA campus (Caltrans 2011); therefore, the proposed housing projects would not damage scenic resources within a State scenic highway.

While there are no State scenic highways, the City of Los Angeles does identify scenic corridors within its City limits. As a constitutional entity, the University of California is not subject to municipal regulations or guidelines; however, information regarding the City's scenic corridors in the vicinity of the UCLA campus is being provided for informational purposes. The *Wilshire-Westwood Scenic Corridor Specific Plan* component of the Los Angeles Citywide General Plan designates a portion of Wilshire Boulevard as a scenic corridor, this designation does not extend to the Wilshire Boulevard frontage of UCLA between Veteran Avenue and Gayley Avenue (City of Los Angeles 1981). The designated corridor terminates just east of Glendon Avenue.

Sunset Boulevard, which extends along the northern boundary of the UCLA campus, is identified as a scenic highway in the Mobility Plan 2035, an Element of the *Los Angeles Citywide General Plan.* The City has not adopted a Corridor Plan for Sunset Boulevard, but does have Scenic Highways Guidelines to guide future development that may affect a designated scenic highway without an adopted Corridor Plan (City of Los Angeles 2016). The nearest of the project sites to Sunset Boulevard is the Drake Stadium site, which is approximately 260 feet south of Sunset Boulevard. As discussed above, views of the Drake Stadium site from Sunset Boulevard are largely obstructed by dense trees and other vegetation, as well as intervening topography and development. Where there are breaks in the trees along Sunset Boulevard, there are only obstructed views of the Drake Stadium site due to the mature trees on the northern edge of the site. The remaining four sites cannot been seen from and have no views of Sunset Boulevard due to distance and intervening development. There would be no impacts to views from Sunset Boulevard with implementation of the proposed housing projects.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance After Mitigation

The proposed housing projects would not damage scenic resources within a State scenic highway.

Threshold 1.3	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

The analysis of Impact 4.1-2 in Section 4.1, Aesthetics, of the March 2009 LRDP Amendment Final EIR concluded that, with implementation of PP 4.1-1(a), PP 4.1-1(b), PPs 4.1-2(a) through 4.1-2(c), and MM 4.3-1(c), the remaining development allocation contemplated by the 2002 LRDP, as amended in March 2009, would result in a less than significant impact to the visual character or quality of the campus and the immediately surrounding area.

As required by PP 4.1-1(a), each of the proposed housing projects would be subject to the University's design process to ensure that the building design, architectural details, and landscaping would preserve and enhance the visual character and quality of the campus. The proposed housing projects would be implemented in accordance with the UCLA Physical Design Framework which, among other purposes, describes the physical design standards that guide new development to enhance the unique campus aesthetic within the constraints of a fully developed campus (UCLA 2009b). Notably, the architecture of the proposed buildings would maintain continuity with UCLA campus architecture as appropriate to the context and materials of the existing built environment of each proposed development site. Further, the Physical Design Framework recognizes that variation in individual buildings provides a balance and offsets a potential sameness that could result from strict implementation of design standards.

With the exception of the Warren Hall and UNEX sites, which would both be visible from common vantage points in the vicinity of these sites, the visual changes at the proposed housing sites are site specific, as analyzed below. To demonstrate potential visual changes associated with implementation of the proposed housing structures, conceptual renderings have been prepared to reflect the currently anticipated height and massing of the structures; these renderings generally correspond to photographs of existing views described previously. Additionally, conceptual simulations have been prepared for the Lot 15 site. It should be noted that, for analysis purposes, the building heights represented in the conceptual renderings and conceptual simulations reflect the maximum height that would be allowed at each site; the actual building heights would be determined during more detailed design phases.

As previously identified, due to consistency with the SB 743 criteria, potential aesthetic impacts are not considered to be impacts under CEQA for the Warren, UNEX and Bradley sites. However, this section includes an assessment of the visual changes from development of these sites for informational purposes.

Lot 15 Site

As further described in Section 3.0, Project Description, of this Draft SEIR, 2 buildings (totaling approximately 353,000 gsf) would be constructed at the Lot 15 site. The Lot 15 housing project building materials, exterior finishes, and colors would relate to the existing student housing structures to the east (e.g., Hedrick, Rieber). Building materials and finishes would include integral

color stucco cladding; metal panel siding; pre-cast panels; expressed cast-in-place concrete stem walls; cementitious panel cladding; a commercial-grade, anodized aluminum sash; enameled sheet metal accent trims; and a low-slope membrane roof. Building materials for hardscape would include cast-in-place concrete with brick banding.

The proposed buildings at the Lot 15 site would be mid-rise buildings, varying between eight and ten levels. An aerial perspective of these buildings demonstrating the height and massing in relation to surrounding on-campus uses is presented in Figure 3-9 in Section 3.0, Project Description, of this Draft SEIR. A conceptual rendering of the proposed structures from an on-campus vantage point near the existing Lot 15 driveway entry is presented in Figure 4.1-7a, and conceptual renderings are presented in Figures 4.1-8a through 4.1-8d depicting potential visual changes as seen from off-campus vantage points in the Westwood Hills neighborhood. Table 4.1-1 presents information on the maximum building elevations for the proposed buildings at the Lot 15 site compared to existing buildings in the vicinity.

TABLE 4.1-1
LOT 15 SITE BUILDING ELEVATIONS

Building Name	Maximum Building Elevation (Roof Level) (feet)
Saxon Residential Suites	525.5
Hitch Residential Suites	562.5
Rieber Vista	590.0
Rieber Hall	593.5
Lot 15 Site – Proposed Building 2 (South)	**596.5**
Rieber Terrace	598.5
Lot 15 Site – Proposed Building 1 (North)	***601.0***
Hedrick Summit	619.0
Hedrick Hall	619.0

As shown in Table 4.1-1, the proposed structures on the Lot 15 site would have maximum building elevations of 596.5 and 601 feet above msl, well within the elevations of existing buildings in the vicinity. With respect to views from on-campus vantage points, as shown on Figure 4.1-2a and 4.1-2b, views into and beyond the Lot 15 site are obstructed by existing mature trees, vegetation, and development. As shown in the conceptual rendering presented in Figure 4.1-7a, trees would be maintained or planted along De Neve Drive and would continue to be a prominent visual feature and would serve to partially obstruct views of the proposed buildings. The architecture and building materials would maintain important color and textural continuity with UCLA campus architecture as required by PP 4.1-2(b) and would be visually consistent with existing residential buildings in the Northwest zone east of De Neve Drive. Although the proposed buildings would be taller than the adjacent Saxon and Hitch residential suites, they would be well within the range of adjacent buildings to the east. The proposed housing project has been designed in consideration of the existing building pads and existing topographical changes across the site; there would not be a substantial change to the topography. Further, the introduction of the proposed housing projects at a site currently used for storage and maintenance facilities would not negatively impact the use of the adjacent recreational uses, including the Sycamore tennis courts. The proposed housing project would not substantially degrade the existing visual character or quality of the site and its surroundings as viewed from on campus vantage points.

View from De Neve Drive looking southwest at Lot 15.

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Lot 15 Site Conceptual Rendering

Figure 4.1-7a

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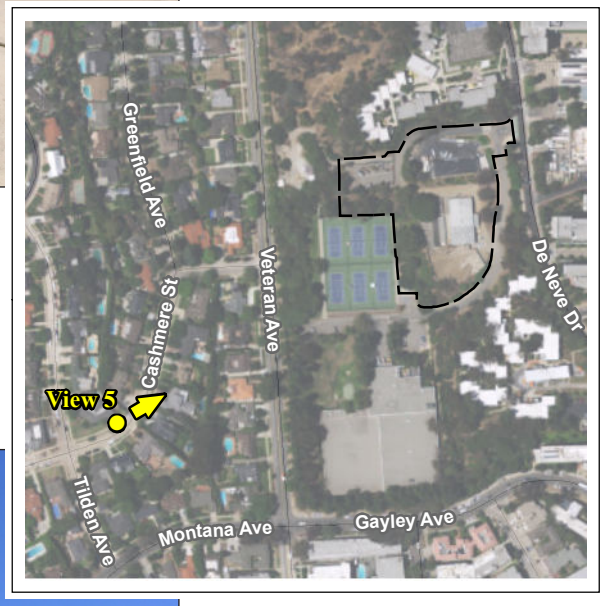
Existing View

View to the northeast from Cashmere Street.



Proposed View

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Lot 15 Site Conceptual Simulation

Figure 4.1-8a

UCLA LRDP Amendment (2017) and Student Housing Projects

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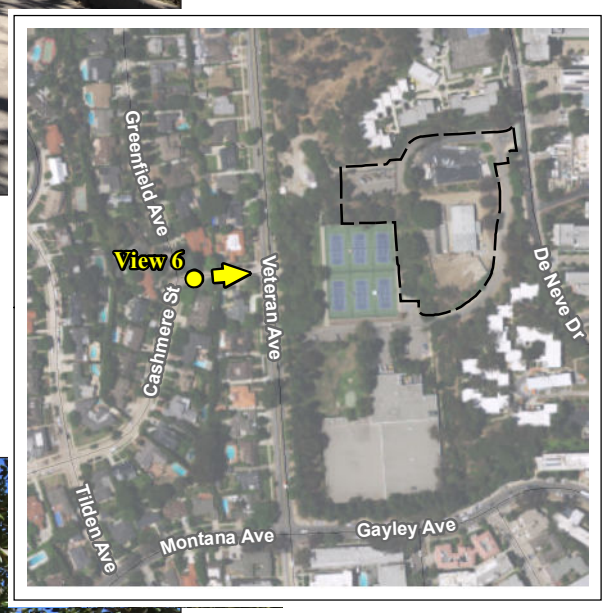
Existing View



View to the east from Cashmere Street.

Proposed View

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Lot 15 Site Conceptual Simulation

Figure 4.1-8b

UCLA LRDP Amendment (2017) and Student Housing Projects

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Existing View

View to the southeast from Veteran Avenue.

Proposed View

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Lot 15 Site Conceptual Simulation

Figure 4.1-8c

UCLA LRDP Amendment (2017) and Student Housing Projects

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Existing View

View to the south-southeast from Veteran Avenue/Sunset Boulevard.

Proposed View

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Lot 15 Site Conceptual Simulation

Figure 4.1-8d

UCLA LRDP Amendment (2017) and Student Housing Projects

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With respect to views of the Lot 15 site from off campus vantage points, the site photographs and conceptual simulations (presented in Figures 4.1-8a through 4.1-8d) demonstrate that views of the proposed structures, if visible at all, would be limited to the areas generally west of the Lot 15 site in the Westwood Hills neighborhood. The portion of Veteran Avenue between Sunset Boulevard to the north and Gayley Avenue to the south is approximately 0.4 mile, and the Lot 15 site is not visible from the vicinity of the Gayley Avenue/Veteran Avenue or Sunset Boulevard/Veteran Avenue intersection (refer to View 4 on Figure 4.1-2b and View 8 on Figure 4.1-8d). The conceptual simulation on Figure 4.1-8d superimposes the outline of the proposed structures on the photograph, demonstrating that the views of buildings are obstructed and would not be visible above the tree line. Therefore, individuals traveling along Veteran Avenue (a public roadway) would potentially have momentary views of the proposed structures that would be relatively short. Based on site reconnaissance, Cashmere Street is the only roadway along Veteran Avenue that would afford individuals traveling in an easterly direction views toward the Lot 15 site; views of the site, and the campus in general, from other roadways internal to the residential neighborhood are largely obstructed by intervening homes and mature trees and vegetation. The only visible portions of the proposed buildings from public vantage points in the vicinity, including from Cashmere Street, are the upper levels of the buildings (refer to Figures 4.1-8a through 4.1-8c). This is consistent with the current condition where there are currently views of the upper levels of the existing residential buildings on campus (primarily those east of De Neve Drive). The proposed building elevations would be between 18 and 22 feet shorter than the tallest nearby buildings (Hedrick Hall and Hedrick Summit). The limited views of on-campus uses from off-campus vantage points is accomplished by maintaining a dense landscaped buffer along Veteran Avenue (as required by PP 4.1-2[d] and the provisions of the Stipulated Agreement of Compromise and Order); this landscape condition would be retained with the implementation of the proposed housing project at the Lot 15 site, and would also serve to screen construction staging/lay down areas. Additionally, although the proposed housing project would require removal of trees in the construction impact area, these trees would be replaced (as further discussed in Section 4.3, Biological Resources, of this Draft SEIR). Although a landscape plan is currently not available, it is anticipated that tree replacement would occur in existing disturbed areas between the Lot 15 site and Veteran Avenue to further enhance the existing landscape buffer. The proposed housing project at the Lot 15 site would not substantially degrade the existing visual character or quality of the site and its surroundings as viewed from off-campus public vantage points.

It should be noted that there would be more prominent views of the proposed buildings from higher elevations west of the Lot 15 site; these views would primarily be from private backyards. However, because the proposed buildings are similar in height to the taller buildings east of De Neve Drive, would have similar architectural styles to these buildings and other buildings on campus, and the on-campus landscape buffer along Veteran Avenue would be maintained and enhanced, the proposed housing project would not substantially degrade the existing visual character or quality of the site and its surroundings as viewed from these areas.

Warren Hall Site

As further described in Section 3.0, Project Description, of this Draft SEIR, 3 buildings (approximately 650,000 gsf) would be constructed at the Warren Hall site, which is currently occupied by 1- and 2-level buildings. The proposed buildings at the Warren Hall site would be mid-rise buildings, with the western and southern buildings being 8 levels and the east building being 10 levels. An aerial perspective of these buildings demonstrating the height and massing in relation to surrounding on- and off-campus uses is presented in Figure 3-11 in Section 3.0, Project Description, of this Draft SEIR. Conceptual renderings of the proposed structures are presented in Figures 4.1-9a through 4.1-9c. Table 4.1-2 presents information on the maximum

building elevations for the proposed buildings at the Warren Hall site compared to existing buildings in the vicinity.

TABLE 4.1-2
WARREN HALL SITE BUILDING ELEVATIONS

Building Name	Maximum Building Elevation (Roof Level) (feet)
Village Terrace	368.0
Building South of Margan Apartments	380.5 (along Levering) to 413.5 (along Weyburn Place)
Margan Apartments (Under Construction)	396.0 (along Levering) to 443.0 (along Weyburn Place)
Weyburn Graduate Student Housing – Sycamore Court	408.0
Warren Hall	420.0
Weyburn Commons Graduate Student Housing	430.0
Levering Faculty Apartment Building (North of Margan Apartments)	448.0
Weyburn Graduate Student Housing – Magnolia Court	456.0
Warren Hall Site – Proposed Building 3 (South)	***480.0***
Warren Hall Site – Proposed Building 1~~2~~ ~~(East)~~ (West)	***485.0***
Warren Hall Site – Proposed Building 2~~1~~ ~~(West)~~ (East)	***509.0***

As shown in Table 4.1-2, the proposed structures on the Warren Hall site would have maximum building elevations ranging from 480 to 509 feet above msl and would be taller than other buildings in the vicinity. The tallest proposed buildings (east and west buildings) would be 29 and 53 feet taller (this represents approximately 3 to 5 levels) than the adjacent Magnolia Court residential structure, which is the tallest existing structure adjacent to the site.

As shown in the conceptual renderings presented in Figures 4.1-9a through 4.1-9c, the buildings have been designed to ensure that the height and massing is visually compatible with surrounding development. Further, the architecture and building materials would maintain important color and textural continuity with UCLA campus architecture as required by PP 4.1-2(b). Notably for this site, the proposed residential buildings would be designed in the Southern California Mission Revival style, consistent with the architecture, materials, finishes, and colors used in the surrounding existing Weyburn graduate student housing structures. It is noted the conceptual renderings presented in Figures 4.1-9a through 4.1-9c are intended to depict massing and height, but not architectural design details. Accordingly, the building materials and finishes would include integral color stucco cladding; pre-cast concrete and ceramic tile trim and cladding; a commercial-grade, dark, anodized aluminum sash; enameled sheet metal accent trims; steel and enameled sheet metal ornamental details, balconies, and gutters/downspouts; and a Mission tile roof. Building materials for hardscape would include cast-in-place concrete with brick banding.

Due to the extent of surrounding development, topographical changes in the project area, and mature vegetation, views of the proposed development at the Warren Hall site would largely be obstructed. The primary viewers would be individuals at nearby vantage points. As demonstrated by the conceptual rendering from Le Conte Avenue, the upper levels of the proposed buildings would be visible above the existing residential uses along Levering Avenue (refer to Figure 4.1-9a). It should be noted that, from certain vantage points immediately east of the UNEX site,

View to the west from Le Conte Avenue.

Existing View

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Warren Hall Site Conceptual Rendering

Figure 4.1-9a

UCLA LRDP Amendment (2017) and Student Housing Projects

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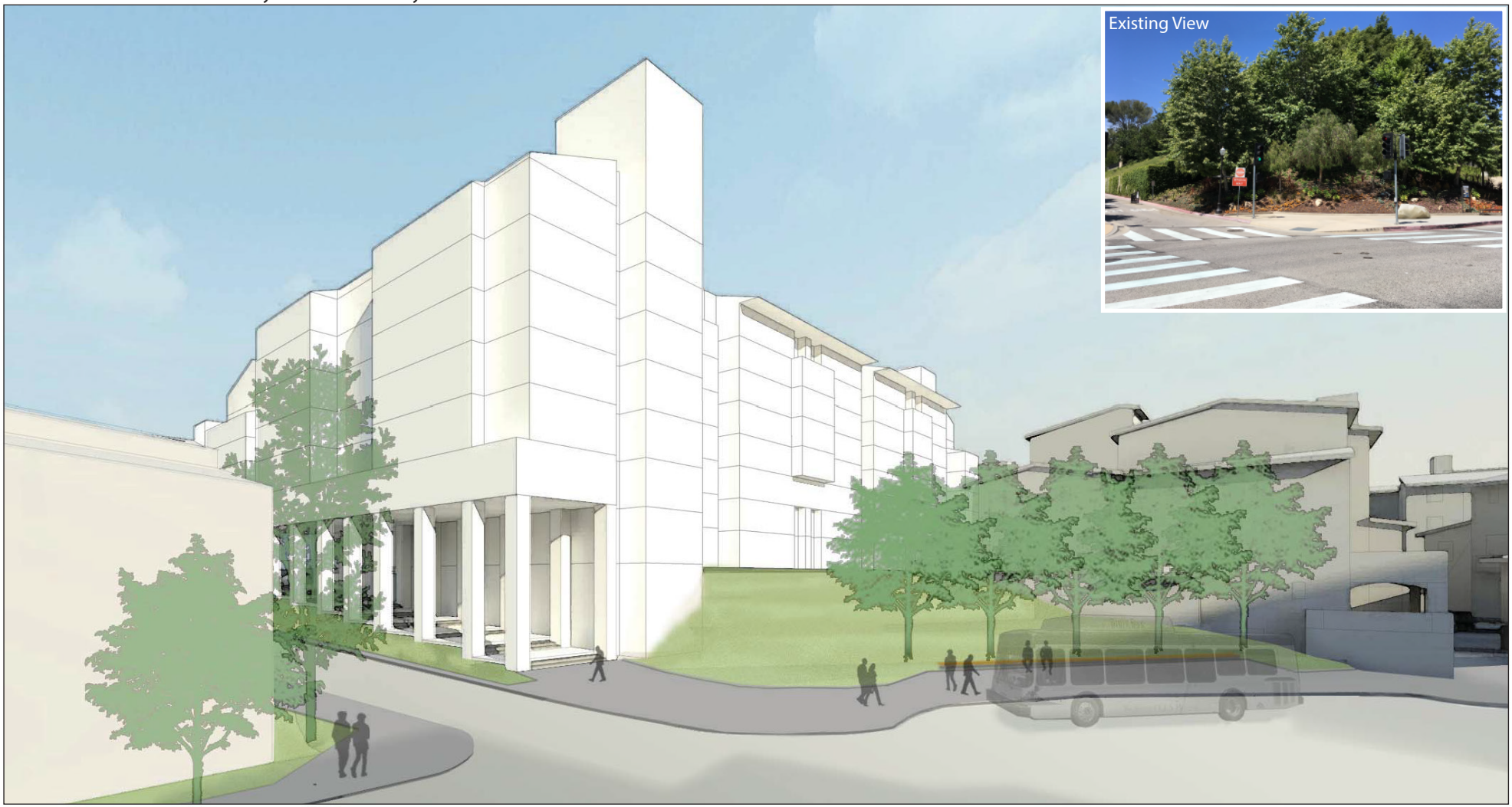
View to the north from the Weyburn Terrace/Weyburn Drive.



Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Warren Hall Site Conceptual Rendering

Figure 4.1-9b

UCLA LRDP Amendment (2017) and Student Housing Projects

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View to the east from Veteran Avenue.

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Warren Hall Site Conceptual Rendering

Figure 4.1-9c

UCLA LRDP Amendment (2017) and Student Housing Projects

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individuals traveling west on Le Conte Avenue would have views of the proposed housing projects at the Warren Hill site and at the UNEX site. At the corner of Weyburn Drive and Weyburn Terrace, which currently consists of a landscape slope, the proposed eight-level south building would become a prominent visual feature (refer to Figure 4.1-9b). Looking east from Veteran Avenue the proposed 8-level west building would be visible at the top of the roadway, similar to the current condition where the existing Warren Hall building is visible (refer to Figure 4.1-9c). The Warren Hall site is completely surrounded by residential development on and off campus. This area, which includes Westwood Village, is fully developed with various building types and building elevations; the building elevations are not representative of actual building heights due to the varying topography throughout the area. The proposed buildings and required landscaping (refer to PP 4.1-2[c]) would be consistent with the existing urban visual character of this area. The proposed housing project at the Warren Hall site would not substantially degrade the existing visual character or quality of the site and its surroundings as viewed from adjacent on- and off-campus vantage points.

UNEX Site

As further described in Section 3.0, Project Description, of this Draft SEIR, 1 building (approximately 350,000 gsf) would be constructed at the UNEX site, which is currently occupied by the 8-level (including partial ground level) UNEX building. The proposed buildings at the UNEX site would include mid-rise and high-rise components, with the north portion being 20 levels and the south portion being 9 levels. An aerial perspective of the building demonstrates the height and massing in relation to surrounding uses is presented in Figure 3-13 in Section 3.0, Project Description, of this Draft SEIR. Conceptual renderings of the proposed structures are presented in Figures 4.1-10a and 4.1-10b. Table 4.1-3 presents information on the maximum building elevations for the proposed building at the UNEX site compared to existing buildings in the vicinity.

TABLE 4.1-3
UNEX SITE BUILDING ELEVATIONS

Building Name	Building Elevation (Roof Level) (feet)
Ueberroth Building	390
Margan (Under Construction) along Weyburn Place	396 (along Levering) to 443 (along Weyburn Place)
Building northwest of UNEX site	424
747 Levering (building northeast of the UNEX site)	430
UNEX Site – 9-story portion	***439 (to parapet)***
Levering Faculty Apartment Building	448
Existing University Extension (UNEX) Building	458
W Hotel (930 Hilgard Avenue)	518 (to elevator penthouse)
1100 Glendon Avenue	563 (to penthouse/restaurant)
UNEX Site 20-story portion	***565 (to elevator penthouse)***
The Wilshire-Gayley (Entitled Hotel/Apartments – 20 stories)	750

As shown in Table 4.1-3, the proposed structure on the UNEX site would have maximum building elevations of 439 feet above msl and 565 feet above msl; the mid-rise portion would have a lower building elevation than the existing UNEX building and similar elevation to other buildings in the vicinity. The proposed high-rise portion would be of similar, or the same, height as the W Hotel Westwood (518 feet) located at 930 Hilgard Avenue and 1100 Glendon (563 feet), respectively.

View to the north from Le Conte Avenue.

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Studios Architecture 2017

UNEX Site Conceptual Rendering

Figure 4.1-10a

UCLA LRDP Amendment (2017) and Student Housing Projects

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View to the south from Gayley Avenue.

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Studios Architecture 2017

UNEX Site Conceptual Rendering

Figure 4.1-10b

UCLA LRDP Amendment (2017) and Student Housing Projects

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Further, the UNEX building would be 185 feet shorter than the approved and entitled Wilshire-Gayley project that will be developed at the northwest corner of Gayley Avenue and Wilshire Boulevard.

As demonstrated by the site photos (refer to Figures 4.1-4a through 4.1-4c), for those vantage points where the existing UNEX building is visible, it is a focal point of the viewshed. This is largely due to its location at the intersection of Gayley, Le Conte, and Levering Avenues. The visual prominence of the UNEX site is most notable for individuals traveling toward the site along Gayley Avenue (north and south of Le Conte Avenue), along Le Conte Avenue (headed west toward the site), and along Levering Avenue (a short distance south of Roebling Avenue). As previously described, views from more distant vantage points are obstructed by intervening development and mature trees and vegetation.

This UNEX site is in the Bridge zone, and is in a transitional zone between the residential neighborhood to the northwest, the main Campus to the northeast, and Westwood Village and Wilshire Boulevard to the south. The design of the proposed buildings would take its cues from all of these influencing neighborhoods and the campus as a whole. Designed as one building, the visual massing is expressed in two integrated components (mid-rise and high-rise). The architecture and building materials would maintain important color and textural continuity with UCLA campus architecture as required by PP 4.1-2(b). The building materials would include a combination of glass and metal panel curtainwall and storefront systems, fiber cement panel systems, integral color cement plaster, architectural grade exposed structural concrete; and a low-slope membrane roof. Building materials for hardscape would include cast-in-place concrete with brick banding.

As demonstrated by the conceptual renderings provided in Figures 4.1-10a and 4.1-10b, the proposed buildings, and notably the proposed high-rise building would maintain the visual prominence of the development at the UNEX site, as viewed from nearby vantage points. However, the proposed high-rise building would be more visible/prominent than the existing UNEX building. This includes views from the campus entry at Westwood Plaza and Le Conte Avenue, which is the major entry to the campus from the south. However, the proposed housing project would be visually consistent with the urban aesthetic character of the area and, as viewed from this entry, which has distant views that extend to high-rise buildings along Wilshire Boulevard to the south and further east on Le Conte Avenue, to the residential uses west of Levering Avenue located at higher elevations, and along Westwood Plaza into the campus. Additionally, as required by PP 4.1-2(c), landscaping would be installed throughout the site including a large landscaped plaza and landscaped perimeters along Gayley Avenue, Le Conte Avenue, and Levering Avenue, to enhance the site's visual character (refer to the conceptual site plan provided in Figure 3-12).

The proposed housing project at the UNEX site would not substantially degrade the existing visual character or quality of the site and its surroundings as viewed from adjacent on- and off-campus vantage points.

Bradley Site

As further described in Section 3.0, Project Description, of this Draft SEIR, 2 buildings (approximately 122,000 gsf) would be constructed at the Bradley site, which currently consists of a landscaped slope south of Bradley Hall and west of the Mo Ostin Basketball Center currently under construction. The proposed mid-rise buildings at the Bradley site would be seven and eight levels. An aerial perspective of these buildings demonstrating the height and massing in relation to surrounding on-campus uses is presented in Figure 3-15 in Section 3.0, Project Description, of this Draft SEIR. Conceptual renderings of the proposed structures are presented in Figures 4.1-

11a through 4.1-11c. Table 4.1-4 presents information on the maximum building elevations for the proposed buildings at the Bradley site compared to existing buildings in the vicinity.

TABLE 4.1-4
BRADLEY SITE BUILDING ELEVATIONS

Building Name	Building Elevation (Roof Level) (feet)
Mo Ostin Basketball Center	419.5
Wasserman Football Center	441.8
Gayley Towers	446.0
Bradley Hall	464.0
University Lutheran Chapel	466.0
Bradley Site – Proposed Building 1 (East)	***467.0***
Bradley Site – Proposed Building 2 (West)	***467.0***

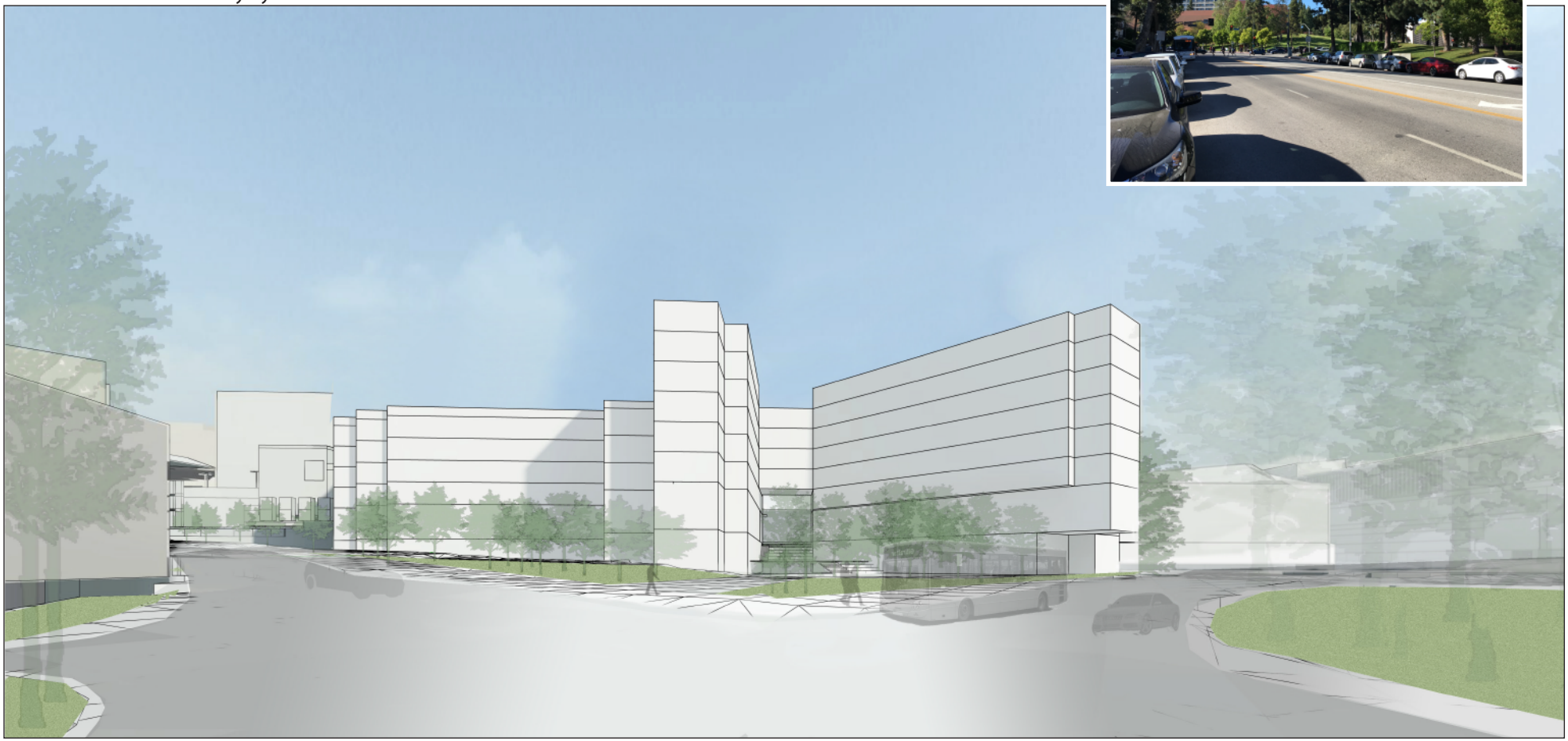
As shown in Table 4.1-4, the proposed structures on the Bradley site would have maximum building elevations of 467 feet above msl, which is generally consistent with the building elevations of Bradley Hall to the north (464 feet above msl) and the University Lutheran Chapel to the west (across Gayley Avenue, 466 feet above msl).

As identified previously, the Bradley site is located at the intersection of Strathmore Drive and Gayley Avenue, which is a campus entry location (refer to View 2 on Figure 4.1-5a). The proposed structures would primarily be visible to individuals traveling on adjacent roadways in the vicinity of the site (Gayley Avenue, Strathmore Drive, Strathmore Place, and Charles E. Young Drive West), as shown in the conceptual rendering presented on Figures 4.1-11a through 4.1-11c. Similar to existing conditions, the views of this site from more distant vantage points would be obstructed by intervening topography, development, and mature trees and vegetation.

The Bradley site is in a densely developed urban area, surrounded by on- and off-campus development, including multi-family residential buildings across Gayley Avenue. The proposed building at this campus entry would become a prominent visual feature from the adjacent vantage points; however, the scale and overall height of the buildings would be compatible with existing development in the area, and the building design would be accordance with the UCLA Physical Design Framework and in context with the existing built environment. As demonstrated in the site photographs presented in Figures 4.1-5a through 4.1-5c, existing mature trees are a prominent visual feature in views toward the Bradley site. While existing trees at the site would be removed, the trees would be replaced, and landscaping would be installed throughout the site including the site perimeters along Gayley Avenue, Strathmore Drive, and Charles E. Young Drive West (as required by PP 4.1-2[c]). Where feasible existing trees would be maintained and protected in place (refer to the discussion of tree removal provided in Section 4.3, Biological Resources, of this Draft SEIR). The installation of landscaping at the site would serve to enhance the visual character consistent with existing conditions in this urban environment, and to partially screen views of the proposed buildings. Additionally, the existing trees lining streets in the vicinity the site (not on the site) would continue to partially obstruct views into the site.

The proposed housing project at the Bradley site would not substantially degrade the existing visual character or quality of the site or its surroundings as viewed from adjacent on- and off-campus vantage points.

View to the north from Gayley Avenue.



Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Bradley Site Conceptual Rendering

Figure 4.1-11a

UCLA LRDP Amendment (2017) and Student Housing Projects

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View to the southeast from Gayley Avenue.

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Bradley Site Conceptual Rendering

Figure 4.1-11b

UCLA LRDP Amendment (2017) and Student Housing Projects

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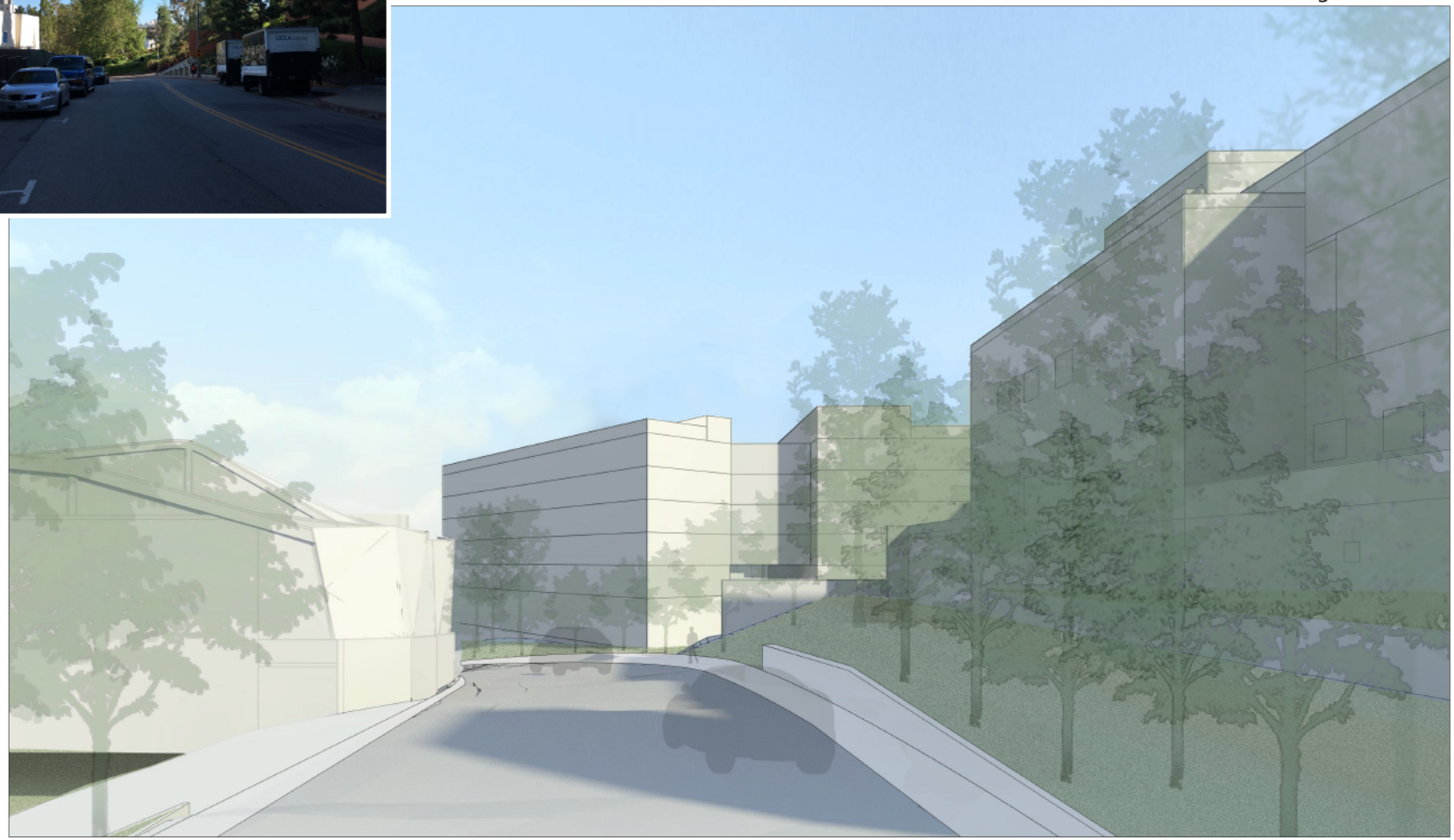
View to the south from Charles E. Young Drive West.



Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Bradley Site Conceptual Rendering

Figure 4.1-11c

UCLA LRDP Amendment (2017) and Student Housing Projects

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Drake Stadium Site

As further described in Section 3.0, Project Description, of this Draft SEIR, 1 building (approximately 240,000 gsf) would be constructed at the Drake Stadium site. The proposed development area generally consists of the stadium concourse and the landscaped slope between Charles E. Young Drive West and the concourse. The proposed mid-rise building would be nine levels. An aerial perspective demonstrating the height and massing of this building in relation to surrounding on-campus uses is presented in Figure 3-17 in Section 3.0, Project Description, of this Draft SEIR. Conceptual renderings of the proposed structure are presented in Figures 4.1-12a through 4.1-12c. Table 4.1-5 presents information on the maximum building elevations for the proposed buildings at the Drake Stadium site compared to existing buildings in the vicinity.

TABLE 4.1-5
DRAKE STADIUM SITE BUILDING ELEVATIONS

Building Name	Building Elevation (Roof Level) (feet)
Carnesale Commons	504
Covel Commons	536
Drake Stadium Site – Proposed Building	***545***
Sproul Hall	558
Sproul Landing	564

As shown in Table 4.1-5, the proposed structure at the Drake Stadium site would have a maximum building elevation of 545 feet above msl, which is well within the building elevations of existing residential buildings on campus adjacent to and east of the site.

As shown in the site photographs presented in 4.1-6a through 4.1-6c, Drake Stadium is primarily visible from on-campus vantage points. Because this area of the campus is developed with various recreation and athletic fields and because Drake Stadium is the facility farthest to the west, there are unobstructed or partially obstructed views of the proposed housing site from various vantage points on campus. Notably, as previously discussed, the proposed residential building would be highly visible from various campus-designated open space preserves to the east (Wilson Plaza, Dickson Plaza, and Janss Steps). There are also limited or distant views from Bruin Plaza and Meyerhoff Park, which are also campus-designated open space preserves. The conceptual rendering presented in Figure 4.1-12a demonstrates the anticipated visual changes from the Janss Steps. As shown, because of the existing residential structures adjacent to and west of the Drake Stadium site, the proposed new building would not substantially alter or degrade the views from vantage points to the east. Additionally, there are no distant or background views that would be obstructed, as the views are already obstructed by the existing development. Figures 4.1-12b and 4.1-12c present the conceptual rendering from vantage points along Bruin Walk and Charles E. Young Drive West, closer to the site. While the new building would be prominent in the viewshed, it would be visually consistent with the existing development in this area. The scale and overall height of the buildings would be compatible with existing residential development, and the building design would be accordance with the UCLA Physical Design Framework. While existing trees along Charles E. Young Drive West would be removed, the trees would be replaced, and landscaping would be installed throughout the site, as required by PP 4.1-2(c). Where feasible, existing trees would be maintained and protected in place (refer to the discussion of tree removal provided in Section 4.3, Biological Resources, of this Draft SEIR).

View to the west from Janss Steps.

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Drake Stadium Site Conceptual Rendering

Figure 4.1-12a

UCLA LRDP Amendment (2017) and Student Housing Projects

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View to the northwest from Bruin Walk.

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Drake Stadium Site Conceptual Rendering

Figure 4.1–12b

UCLA LRDP Amendment (2017) and Student Housing Projects

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View to the north from Charles E. Young Drive West.

Note: This is a conceptual rendering of the proposed development, subject to change during final design.

Source: Mithun 2017

Drake Stadium Site Conceptual Rendering

Figure 4.1-12c

UCLA LRDP Amendment (2017) and Student Housing Projects

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As shown in the site photographs for Views 4 and 6 presented in Figures 4.1-6b and 4.1-6c, respectively, views of the Drake Stadium site from off-campus vantage points are obstructed or very limited due to the dense landscape buffer along Sunset Boulevard at the campus' northern boundary, which is required by PP 4.1-2(d). There would be no public views of the site from off-campus vantage points to the north.

The proposed housing project at the Drake Stadium site would not substantially degrade the existing visual character or quality of the site and its surroundings as viewed from adjacent on and off campus vantage points.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance After Mitigation

The proposed housing projects would not substantially degrade the existing visual character or quality of the sites and their surroundings. This impact is less than significant.

Threshold 1.4	Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

As identified in Section 4.1, Aesthetics, of the March 2009 LRDP Amendment Final EIR, future development could create new sources of light from exterior building illumination, lighted recreation/athletic facilities, and parking lots or structures, as well as glare from reflective building surfaces and/or the headlights of vehicular traffic. It was concluded that these new sources of light or glare could affect day or nighttime views of adjacent sensitive land uses on campus or in the immediate vicinity, resulting in a potentially significant impact. However, with implementation of Final EIR MM 4.1-3(a) through MM 4.1-3(b), these impacts were determined to be less than significant.

As previously discussed, existing sources of light at the campus are intended to provide a safe environment for vehicular and pedestrian travel to and from the existing uses and along adjacent roadways. Additionally, athletic field lighting is provided at the athletic and recreational facilities in the Central zone to allow for nighttime use of these facilities. Due to the highly developed urban nature of the UCLA campus surrounding communities, there is varying levels of ambient light on the proposed housing sites and in the immediately surrounding areas. It should also be noted that the heavily landscaped buffers provided along Veteran Avenue and Sunset Boulevard, which border the Northwest zone and Central zone, reduce the amount of light glare experienced off campus from on campus uses.

Each of the proposed housing projects would incorporate additional lighting, consistent with existing residential uses on and off campus. Energy-efficient light-emitting diode (LED) signs would be provided at exits, in stairwells, along the paths of egress on every floor, and where required by code. It should be noted that the proposed structures would be designed to minimize exterior lighting, while still meeting requirements for safety and security. Notably, for the Lot 15 site, exterior lighting would be minimized on west-facing elevations, to the extent possible. As required by March 2009 LRDP Amendment MM 4.1-3(b), outdoor lighting would be directed to the specific location intended for illumination (e.g., roads, walkways, or recreation fields) to limit stray light spillover onto adjacent residential areas, and lighting would be shielded to minimize the production of glare and light spill onto adjacent uses. Further, the proposed housing projects at

the Lot 15 site and Drake Stadium site would maintain the dense landscaped buffer along Veteran Avenue and Sunset Boulevard, and this would continue to minimize light glare.

There are no roadways planned that would require the installation of streetlights. Additionally, there are no new parking areas that would involve a substantial number of vehicles entering or exiting the sites. However, consistent with the intent of MM 4.1-3(c), which is specific to parking areas, ingress and egress to the proposed housing sites would be located so as to not direct vehicle headlights into sensitive uses. The vehicular access points to the Lot 15 site and UNEX site would be consistent with existing conditions and would not introduce new lighting from vehicle headlights. The Warren Hall site currently has parking areas with access from Weyburn Place. With the proposed project there would be one access driveway along Weyburn Place and another along the northern boundary of the site. There would be a reduction in the number of vehicles entering and exiting the site, and an associated reduction in lights from vehicles. The northern access would be located so as to not cause vehicle headlights to be directed to a sensitive use. The UNEX site currently has access from Gayley Avenue and Levering Avenue. With the proposed project, the only access would be from Gayley Avenue and there would be fewer vehicles entering and leaving the site. There is currently no vehicular access to the Bradley site, and the new access would be from Charles E. Young Drive West, across from the LA Tennis Center, which is at a lower elevation. Vehicle headlights would not be directed toward a sensitive use.

Glare is a common daytime phenomenon in the Southern California area mainly due to the occurrence of a high number of days per year with direct sunlight and the highly urbanized nature of the region, which results in a large concentration of potentially reflective surfaces. Excessive glare not only restricts visibility but also increases the ambient heat reflectivity (i.e., albedo) in a given area. Potentially reflective surfaces in the vicinity of the proposed housing sites include windows at the adjacent buildings and on automobiles traveling on adjacent roadways in the area. With incorporation of the design features required by the March 2009 LRDP Amendment Final EIR into the proposed housing projects, such as MM 4.1-3[a], which requires the use of non-reflective textured surfaces on building exteriors and avoidance of the use of reflective glass, impacts resulting from glare from new development would be reduced to a less than significant level.

Consistent with the analysis presented in the March 2009 LRDP Amendment Final EIR, the proposed housing projects would not result in a substantial new source of light or glare, and there would be less than significant impacts related to daytime or nighttime light and glare with incorporation of MM 4.3-1(a) through MM 4.3-1(b).

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would have a less than significant impact related to a new source of substantial light or glare affecting day or nighttime views in the area.

Threshold 1.5	Would the project cause shade and/or a shadow on currently un-shaded, shadow-sensitive uses off-campus?

Shade and shadow in urban settings is common where there are differences in building height between adjacent or nearby development. Shadow lengths are dependent on the height and size

of the building from which they are cast and the angle of the sun. June 21 (summer solstice) and December 21 (winter solstice) represent the days of the year with the longest and shortest periods of daylight, respectively. September 22 (autumnal equinox) and March 20 (spring equinox) represent days halfway between the summer and winter solstices, and would have functionally the same shadow effects. Shade and shadow effects over the course of daylight hours vary. For example, during early morning hours (sunrise), the sun is positioned low in the sky and casts longer shadows. As the day progresses, shadow lengths become shorter as the sun approaches its highest point in the sky around midday (noon). From this point in the day, the sun's position in the sky becomes progressively lower and the corresponding shadows become longer until the sun disappears beyond the horizon at sunset. As a rule, the longest shadows are cast during the winter months and the shortest shadows are cast during the summer months, with the longest shadows cast during the morning and afternoon hours and the shortest shadows cast during the noon hour.

Based on consideration of the location of the proposed housing sites, proposed building heights, and presence of shadow-sensitive uses in each site vicinity, an analysis of potential shade and shadow is necessary for the proposed structures at the Warren Hall and UNEX sites. Specifically, both of these sites are adjacent to off-campus residential uses with an outdoor pool, which would be considered "shadow-sensitive" use. The remaining sites would not be adjacent to off-campus shadow-sensitive uses.

Based on review of aerial photographs, the privately owned apartment complex located at 919/923 Levering Avenue, to the east across Weyburn Place, has a pool in its interior courtyard. However, the pool currently experiences shadows cast by the existing buildings and trees. This is based on (1) the height of the surrounding buildings at this apartment complex and the height of the University-owned Village Terrace Condominiums building to the south (919 Levering Avenue), which is taller than the apartment complex; (2) the location of the pool in an interior courtyard; and, (3) the presence of mature trees within the courtyard (exceeding the height of the building). The shadows cast by the proposed buildings at the Warren Hall site, which would be taller than the existing buildings on the site, would likely extend into the courtyard of the 919/923 Levering Avenue apartment complex when at their longest in a northeasterly direction (e.g., late afternoon). However, given the existing amount of shade experienced at the pool, the proposed building at the Warren Hall site would not cause shade/shadow on a currently unshaded, shadow-sensitive use off campus. This impact would be less than significant and no mitigation is required.

Based on review of aerial photographs, the privately owned residential use located at 10982 Roebling Avenue, to the northwest of the UNEX site, has a pool on a second-floor deck in the southern corner of the building (facing Roebling Avenue). The pool is approximately 130 feet west of the existing UNEX building at the nearest point. Additionally, as shown in the site photographs presented in Figures 4.1-4a and 4.1-4b, there are numerous mature trees that line Levering Avenue adjacent to this building. Based on the location of the pool in relation to the associated residential building and existing UNEX building and on the presence of the mature trees adjacent to the building/pool, the pool currently experiences various levels of shade, at varying times of day. The proposed building at the UNEX site would not cause shade/shadow on a currently unshaded, shadow-sensitive use off campus. This impact would be less than significant and no mitigation is required.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would have a less than significant impact related to causing shade and/or a shadow on currently unshaded, shadow-sensitive uses off campus.

4.1.4 CUMULATIVE IMPACTS

The geographic context for the analysis of cumulative aesthetic impacts includes areas with views of the UCLA campus, which occur in certain portions of the Westwood, West Los Angeles, Bel Air-Beverly Crest, and Brentwood-Pacific Palisades Community Plan areas. The analysis accounts for all anticipated cumulative growth within this geographic area, as represented by full implementation of allowed development under the *City of Los Angeles General Plan Framework* and development of the related projects provided in Table 4-1, City of Los Angeles Cumulative Projects, in Section 4.0, Introduction to the Environmental Analysis, of the March 2009 LRDP Amendment Final EIR.

Cumulative development associated with implementing development under the General Plan Framework (including the identified cumulative projects) may have a substantial cumulative adverse effect on focal views of a scenic vista. The major natural landform existing within the geographic area for this analysis is the Santa Monica Mountains. Future development within the Santa Monica Mountains is not anticipated to be extensive; however, it is possible that certain focal views of natural landforms and scenic resources (such as trees, rock outcroppings, or scenic highways) within the Santa Monica Mountains and elsewhere in the City of Los Angeles could generally be affected by such development on a site-by-site basis. It is anticipated that the protections afforded to natural scenic resources through the CEQA review process, scenic highway protection requirements, and local design review procedures would be applied, resulting in a less than significant cumulative impact; although it is possible that future loss of individual scenic natural resources could be regarded by some as significant on a cumulative basis. However, the UCLA campus does not contain any rock outcroppings; would not conflict with City of Los Angeles Scenic Highway Guidelines applicable to the Sunset Boulevard corridor; and the campus is not adjacent to the portion of Wilshire Boulevard that the City of Los Angeles has designated as a scenic corridor. Moreover, pursuant to PP 4.1-2(b), the landscape plantings (including trees) that give the campus its unique character will be respected and reinforced. Accordingly, the contribution of the proposed housing projects to cumulative impacts on focal views of natural scenic resources or scenic highways are not cumulatively considerable. This is considered to be a less than significant impact.

Focal views of urban features (i.e., public art and signs) or visually important or historic structures are protected from adverse impact by (1) City of Los Angeles ordinances, (2) the California Environmental Quality Act (CEQA) review process, and (3) through the application of guidelines for preserving visual integrity, which are contained in planning documents such as the General Plan Framework, the Westwood Community Plan, and the Westwood Village Specific Plan. The focal views on campus were identified in the Environmental Setting discussion of this section. There are no focal views in the area adjacent to the campus (off campus). Cumulative impacts on historic buildings as a cultural resource are analyzed in Section 4.4 of this EIR, and are less than significant. However, although future development is anticipated to comply to the extent feasible with these ordinances and guidelines, significant impacts could occur to these unique focal views as a result of a specific development project, and thus contribute to a cumulative impact that could be regarded as significant. As discussed above under Threshold 1.1, the proposed housing

projects would continue to implement programs and practices to preserve the existing architectural character of the campus and to maintain existing areas of special interest and aesthetic quality on campus (refer to PP 4.1-1[a] and PP 4.1-2[b]). As a result, the contribution of the proposed housing projects to impacts on focal views of urban features, including historic buildings, is not cumulatively considerable. This is considered to be a less than significant impact.

When evaluating cumulative impacts to the visual character of a site or area, a number of factors must be considered. In order for a cumulative aesthetic impact to occur, the proposed elements of the cumulative projects would need to be seen together or in proximity to each other. If the projects were not in proximity to each other, the viewer would not perceive them in the same scene. Based on the cumulative project's list provided in Table 4-1, the location of the proposed housing projects, and the location previously approved UCLA projects, the only cumulative projects within the same viewshed as the proposed housing projects include (1) the UCLA Mo Ostin Basketball Center and Wasserman Football Center (east of the Bradley site); (2) the UCLA Margan Apartments Redevelopment Project (east of the Warren Hall site and west of the UNEX site); and (3) the residential project at the corner of Strathmore Drive and Levering Avenue in the Westwood Village neighborhood, north of the UNEX site and Margan Apartments Redevelopment Project (refer to Figure 4-1 in Section 4.0 of this Draft SEIR). It should be noted that the Wasserman Football Center and residential project in Westwood Village are completed, and the Mo Ostin Basketball Center is nearing completion. The views of these projects would be limited to vantage points in the Westwood Community Plan areas.

Full implementation of anticipated cumulative development, including the projects identified above, would not result in a cumulatively significant impact in terms of a substantial degradation of the visual character or quality of the area. The campus and surrounding areas are in a built out, urban environment. As discussed in the March 2009 LRDP Amendment Final EIR, development outside the campus Core zone would occur adjacent to areas that are fully developed, dense, multi-family residential, urban, or commercial in nature. The Existing LRDP includes various campus practices and procedures (identified as March 2009 LRDP Amendment Final EIR PP 4.1-1[a], and PPs 4.1-2[b] through 4.1-2[d] in this section) regarding the planning and design of development. The required incorporation of these PPs into the proposed housing projects would ensure that the contribution of the proposed housing projects, in conjunction with other planned projects on campus, to degradation of visual quality/character is less than significant. Future development in the City of Los Angeles will continue to be guided by the General Plan Framework. Consequently, changes in the nature or land use of Los Angeles neighborhoods that would substantially degrade the area would not be permitted to occur under the General Plan Framework and CEQA requirements; the visual character of these areas would, therefore, be protected. Additionally, the *Westwood Community Plan* and associated Specific Plans ensure that development occurs consistent with its surroundings in terms of massing, building heights, and aesthetics. Therefore, the projects proposed to occur in the area would not be expected to result in the substantial degradation of the visual quality of the area. Even if it were determined that future projects would result in a future cumulative impact, the proposed housing projects would not contribute to any cumulatively considerable impacts for the reasons stated in the analysis presented in this section. Cumulative impacts would be less than significant.

Much of the subject geographic area is composed of single- and multi-family residential neighborhoods that could be sensitive to increases in light or glare. Consequently, growth representing full implementation of cumulative projects could result in the creation of new sources of substantial light or glare that could affect day or nighttime views. With regard to nighttime views, cumulative development would occur in already developed areas, including areas that already contain higher densities and commercial development, such as along Wilshire Boulevard or in Westwood Village. As with typical urban environments, these areas are already subject to nighttime light sources (from existing development, street lights, motor vehicles, and other

sources) so added light would not substantially penetrate into residential communities beyond existing conditions. Additional development may substantially increase daytime glare due to an increase in the number of windows and uncertainty as to the type of building materials that future development would use. Consequently, a cumulatively significant impact could occur. However, the contribution of the proposed housing projects would not be cumulatively considerable with regard to a substantial new source of light and glare. The proposed housing projects would occur on the UCLA campus, which is already a source of nighttime illumination. For development occurring on the edge of campus and next to other land uses, shielding of light fixtures, in combination with buffers and landscaping, would reduce impacts to off-campus land uses from nighttime lighting and vehicle headlights. With regard to glare impacts, the campus practice that requires the use of non-reflective glass and textured materials would also reduce glare. Consequently, potential light and glare impacts would be reduced and would not be cumulatively considerable. This is a less than significant cumulative impact.

4.1.5 REFERENCES

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4.2 AIR QUALITY

Air quality issues are addressed in Section 4.2 of the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR). This section evaluates the potential impacts on air quality resulting from implementation of the proposed Long Range Development Plan (LRDP) Amendment (2017) and Student Housing Projects. Resources used to prepare this section include, but are not limited to, analysis of campus-wide air quality presented in Section 4.2 of the March 2009 LRDP Amendment Final EIR; the South Coast Air Quality Management District's (SCAQMD's) *CEQA [California Environmental Quality Act] Air Quality Handbook* and website; project details as described in Section 3.0, Project Description, of this Draft Subsequent EIR (SEIR); the *University of California, Los Angeles Long Range Development Plan Amendment (2017) and Student Housing Projects Transportation* Impact Analysis (Crain 2017) (included as Appendix H). Supporting air quality data and calculations are included in Appendix C.

Relevant elements of the proposed Project related to air quality include the use of diesel-powered and other construction equipment that would contribute to regional and local pollutant emissions (refer to discussion of "Construction Activities" in Section 3.5.6 of this Draft SEIR) and the transport of demolition debris and construction materials to/from the proposed housing sites. As further described in Section 3.1, of the Project Description, the proposed on-campus student housing would accommodate (1) new UCLA students; (2) existing student residents that are in triple bed rooms designed for double bed rooms; (3) return student residents (4th year undergraduate and 2nd year transfer students); (4) new transfer students; and (5) graduate students. Additionally, there would be approximately 145 new staff positions; these staff would work various shifts. As further discussed in this section, the proposed housing projects would result in a slight net reduction in daily vehicle trips; therefore, for purposes of this air quality analysis, the change in trip generation would be negligible and mobile source emissions are not calculated.

Three Notice of Preparation (NOP) comment letters were received addressing air quality issues and are included in Appendix A of this Draft SEIR. The SCAQMD recommended that the Lead Agency identify potential adverse air quality impacts that could occur from all phases of the proposed Project, including calculating impacts from construction and operations, and combined emissions from construction and operations should there be overlap in these phases of development. The SCAQMD requests that results be compared to SCAQMD's regional and localized significance thresholds, as applicable. The SCAQMD recommends performing a health risk assessment if the proposed Project generates or attracts heavy-duty diesel-fueled vehicles and recommends using the California Air Resources Board's (CARB's) *Air Quality and Land Use Handbook* as guidance in citing potentially incompatible land uses. The SCAQMD also identifies that mitigation measures should be identified and alternatives evaluated for significant impacts. Lastly, the SCAQMD should be identified as a responsible agency if the Project requires a permit from SCAQMD. As identified in Section 3.9, Anticipated Discretionary Actions, of the Draft SEIR, the SCAQMD is identified as a responsible agency because permits would be required for operation of boilers and emergency generators.

The NOP comment from the Westwood Hills Property Owners Association indicates that potential air quality impacts associated with the increase in student residents on campus should be addressed, and one individual NOP comment indicates that air quality impacts during construction should be addressed.

4.2.1 ENVIRONMENTAL SETTING

Section 4.2.1, Environmental Setting, of the March 2009 LRDP Amendment Final EIR, includes a detailed discussion of the existing conditions at the time that EIR was prepared for the following: climate, air quality background, air quality, local pollutant sources, campus emissions, sensitive receptors, toxic air contaminants emissions, lifetime cancer risk, cancer burden, and non-cancer health effects. Following is a summary of this information that is either relevant to the proposed Project or that has been updated since the LRDP Amendment Final EIR was certified in March 2009.

Regional Context

As discussed in Section 4.2, Air Quality, of the March 2009 LRDP Amendment Final EIR, the campus is located within the South Coast Air Basin (SoCAB), which was named as such since its geographical formation is that of a basin with the surrounding mountains trapping the air and its pollutants in the valleys (or basins) below. The SoCAB includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The SCAQMD is responsible for ensuring that the SoCAB meets the national and State ambient air quality standards.

Criteria Pollutants

Both the federal and State governments have established ambient air quality standards for outdoor concentrations of specific pollutants (referred to as "criteria pollutants") in order to protect public health. The national and State ambient air quality standards have been set to protect the most sensitive persons from illness or discomfort; these levels are given with a margin of safety. The criteria pollutants for which federal standards have been promulgated and that are most relevant to this air quality impact analysis are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), and particulate matter (PM10 and PM2.5). Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM10. Fine particulate matter (PM2.5) is a subgroup of PM10 that consists of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. O_3 is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOx)—both byproducts of internal combustion engine exhaust—undergo slow photochemical reactions in the presence of sunlight. Thus, VOCs and NOx are O_3 precursors.

Lead and sulfur dioxide (SO_2) are criteria pollutants identified by the U.S. Environmental Protection Agency (USEPA). Lead emissions are of concern for industrial projects, such as battery manufacturing and recycling, or lead smelters. SO_2 emissions are of concern in fossil-fueled power plants and industrial facilities. Similarly, the State of California has identified visibility reducing particles, vinyl chloride, sulfates, and hydrogen sulfide as criteria pollutants. The pollutants discussed in this paragraph, while of concern for specific applications, are not relevant to the proposed Project or evaluated in this Draft SEIR, because they are not anticipated to be emitted in substantial amounts under the proposed Project.[1]

In 2007, the U.S. Supreme Court held that greenhouse gases (GHGs) fall within the Clean Air Act's ("CAA") definition of an "air pollutant" and directed the USEPA to consider whether GHGs are causing climate change and thus harm to humans. GHG emissions and impacts are addressed in Section 4.6 of this Draft SEIR.

[1] SO_2 emissions are calculated in CalEEMod and, as shown in Appendix C, are negligible. Because emissions of lead, vinyl chloride, sulfates, and hydrogen sulfide are not anticipated in most land use development projects, these pollutants are not addressed in CalEEMod.

Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths, that may cause serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and testing facilities. TACs are different from the "criteria" pollutants in that ambient air quality standards have not been established for TACs.[2]

During routine operations, UCLA generates toxic air contaminant emissions regulated by the State of California. The sources of TAC emissions include boilers, standby generators driven by internal combustion engines (ICEs), and residential natural gas units (e.g., dryers, ranges). Emissions from these sources are reported to the SCAQMD as part of the Annual Emission Report (AER).

Existing Air Quality

Attainment Designations

Subsequent to the publication of the March 2009 LRDP Amendment Final EIR, there have been changes in the attainment status in the SoCAB as shown in the footnotes to Table 4.2-1. Table 4.2-1 summarizes the current attainment status in the SoCAB for the criteria pollutants. As shown, the SoCAB is a nonattainment area for PM10 (State), PM2.5 (federal and State), and O_3 (federal and State).

TABLE 4.2-1
ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SOUTH COAST AIR BASIN

Pollutant	State	Federal
O_3 (1 hour)[a]	Nonattainment	Extreme Nonattainment
O_3 (8 hour)[b]		Extreme Nonattainment
PM10[c]	Nonattainment	Attainment/Maintenance
PM2.5	Nonattainment	Moderate Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Attainment/Nonattainment[d]
All Others	Attainment/Unclassified	No Standards

O_3: ozone; PM10: particulate matter 10 microns or less in diameter; PM2.5: particulate matter 2.5 microns or less in diameter; CO: carbon monoxide; NO_2: nitrogen dioxide; SO_2: sulfur dioxide.

[a] 1-hour O_3 standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard based on 2008-2010 data and is still subject to anti-backsliding requirements.

[b] The 1997 8-hour O3 standard (0.08 ppm), which was current in the March 2009 LRDP Amendment Final EIR, was reduced (0.075 ppm), effective May 27, 2008. The current designation is for the 2008 8-hour standard. Designations for the 2015 standard (0.070 ppm) are pending.

[c] The federal PM10 designation was changed from Nonattainment to Attainment/Maintenance on July 26, 2013.

[d] The Los Angeles County portion of the SoCAB is designated nonattainment for lead; the remainder of the SoCAB is designated attainment.

Source: CARB 2016a, SCAQMD 2016a.

[2] An exception is that there are ambient standards for lead and vinyl chloride because CARB classified these pollutants as TACs after they were identified as criteria pollutants.

Monitored Ambient Air Quality

The SCAQMD has divided the region into 38 source receptor areas (SRAs) in which 36 air monitoring stations operate. The UCLA campus is located within SRA 2, which covers the northwest coastal Los Angeles County area. Ambient air pollutant concentrations within SRA 2 are monitored at the Veterans Administration (VA) Hospital generally at Wilshire Boulevard and Sawtelle Boulevard in West Los Angeles, southwest of the UCLA campus. The VA Hospital monitoring station ranges from approximately 0.7 mile to 1.4 miles south-southwest of the proposed housing sites. Of the criteria air pollutants, ambient concentrations of O_3, CO, and NO_2 are monitored at this station. The nearest PM2.5 monitoring sites are in downtown Los Angeles and in Long Beach; the nearest PM10 monitoring site is near the Los Angeles International Airport. Data from these PM2.5 and PM10 sites are not representative of the existing environment at UCLA. Table 4.2-2, Summary of Ambient Air Quality in the Vicinity of the UCLA Campus, identifies the national and State ambient air quality standards for these air pollutants along with the ambient pollutant concentrations that have been measured within SRA 2 between 2014 and 2016. As shown in Table 4.2-2, O_3 concentrations exceeded the State standard in 2014 for 1-hour O_3, the federal 2008 8-hour O_3 standard in 2014, and the federal 2015 and the State 8-hour standards from 2014 to 2016.

TABLE 4.2-2
SUMMARY OF AMBIENT AIR QUALITY IN THE VICINITY OF THE UCLA CAMPUS

Air Pollutants Monitored at the VA Hospital Station[a]	Year		
	2014	2015	2016
O_3			
Maximum 1-hour concentration measured	0.116 ppm	0.102 ppm	0.085 ppm
Number of days exceeding State 0.090 ppm 1-hour standard	1	2	0
Maximum 8-hour concentration measured	0.094 ppm	0.072 ppm	0.073 ppm
Number of days exceeding national 2008 0.075 ppm 8-hour standard[c]	4	0	0
Number of days exceeding national 2015 and State 0.070 ppm 8-hour standard	5	2	2
CO			
Maximum 8-hour concentration measured	1.3 ppm	1.4 ppm	1.1 ppm
Number of days exceeding national 9.0 ppm 8-hour standard	0	0	0
Number of days exceeding State 9.0 ppm 8-hour standard	0	0	0
NO_2			
Maximum 1-hour concentration measured	0.064 ppm	0.068 ppm	0.055 ppm
Number of days exceeding State 0.180 ppm 1-hour standard	0	0	0
Annual average concentration	0.013 ppm	0.011 ppm	0.011 ppm
Exceed State 0.030 ppm or national 0.053 ppm annual standard?	No	No	No

VA: Veterans Administration; O_3: ozone; ppm: parts per million; CO: carbon monoxide; NO_2: nitrogen dioxide; PM10: respirable particulate matter less than 10 micrometers in diameter; $\mu g/m^3$: micrograms per cubic meter; PM2.5: fine particulate matter less than 2.5 micrometers in diameter.

[a] Ambient concentrations of PM10 and PM2.5 are not monitored in SRA 2.
[b] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

Sources: CARB 2017, SCAQMD 2016.

Existing Emissions

Motor vehicles are the primary source of pollutants in the campus vicinity and within the project area (e.g., from parking lots, garages, and local streets). Traffic-congested major roadways and major signalized intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or State standards for CO are termed CO "hotspots". Analysis of the proposed Project's contribution to localized CO concentrations is included in Section 4.2.3, below.

As identified in the March 2009 LRDP Amendment Final EIR, the UCLA campus conducts routine operations that generate TAC pollutant emissions. The emissions sources include cogeneration gas turbines, gasoline dispensing operations, boilers, standby generators driven by internal combustion engines, painting operations, and laboratory chemical usage. None of the five sites include notable sources of TACs.

Existing criteria pollutant emissions sources at the proposed housing sites are discussed below for each site:

- **Lot 15 Site.** This site is used for a greenhouse and facilities used by the UCLA Housing and Facilities Management departments for storage of parts, material, and plants. Parking for these uses is also provided. Existing sources of emissions consist of vehicles accessing and leaving the site.
- **Warren Hall Site.** This site is currently developed with Warren Hall, which houses various office uses and research facilities. Existing sources of emissions consist of natural gas used for hot water, cooking, and heating; area sources including consumer products and landscape maintenance equipment; and vehicles servicing the building.
- **UNEX Site.** This site is currently developed with the UNEX building. Existing sources of emissions consist of natural gas used for hot water and heating; area sources, including consumer products and landscape maintenance equipment; and vehicles servicing the building.
- **Bradley Site.** This consists of an undeveloped grassy knoll adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive. There are no existing sources of emissions from this site.
- **Drake Stadium Site.** This site is currently developed with the Drake Stadium and concourse. There are no existing sources of emissions from this site.

Sensitive Receptors

The SCAQMD defines typical sensitive receptors as residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The sensitive receptors nearest to each of the proposed housing sites are identified below.

- **Lot 15 Site.** The Lot 15 site is surrounded on three sides by UCLA on-campus housing. Specifically, the Hitch residential suites are approximately 40 feet north of the Lot 15 site (at the nearest points); the Saxon residential suites are approximately 40 feet to the southeast; and Rieber Terrace is approximately 125 feet to the east, across De Neve Drive. There are one- and two-story single-family homes to the west across Veteran Avenue, with the closest home approximately 250 feet from the site boundary (not including the construction staging area in the Boneyard).

- **Warren Hall Site.** The Warren Hall site is surrounded on four sides by multi-story residential housing. Privately and University-owned apartment buildings facing onto Weyburn Place are located approximately 25 feet from the site.
- **UNEX Site.** The closest sensitive receptors are multi-story, off-campus residential buildings to the north and northwest, which are located within 20 feet of the site boundary.
- **Bradley Site.** The closest sensitive receptors to the Bradley site are multi-story, privately and University-owned residential buildings located to the southwest across Gayley Avenue. The nearest buildings are located proximate to the southeast portion of site, approximately 60 to 70 feet from the Bradley site boundary.
- **Drake Stadium Site.** The closest sensitive receptor to the Drake Stadium site is the Sproul Hall residential building located approximately 70 feet from the site boundary to the west across Charles E. Young Drive West. Drake Stadium, a track and field facility, is approximately 150 feet to the east of the Drake Stadium site.
- **Sewer Line Upgrades.** The closest receptors to the Lot 15 sewer upgrade alignment are the Saxon residential suites, which may be as close as 25 feet from the construction area, depending on the final alignment. The closest receptors to the Warren Hall Veteran Avenue upgrade alignment are the Palm Court residences on the east side of Veteran Avenue, which may be as close as 25 feet from the construction area, depending on the final alignment. The closest receptors to the Warren Hall Gayley Avenue upgrade alignment are residences and medical facilities adjacent to Weyburn Drive and Gayley Avenue. These receptors may be as close as 25 feet from the construction area, depending on the final alignment.

4.2.2 REGULATORY FRAMEWORK

Section 4.2 of the March 2009 LRDP Amendment Final EIR provides a complete discussion of the regulatory framework for the analysis of air quality. The following discussion summarizes the roles of the regulatory agencies relative to the proposed Project's air quality and notes regulatory information presented in the LRDP Final EIR that has been updated since March 2009 and/or is particularly relevant to the proposed Project.

Federal

The USEPA is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The standards are shown in Table 4.2-3. Subsequent to the preparation of the LRDP Final EIR, the USEPA established (1) a new 1-hour SO_2 and the then-existing 24-hour and annual primary standards were revoked; (2) a 1-hour standard for NO_2; (3) a lowered PM2.5 annual standard; and (4) a lower national 8-hour O_3 primary and secondary standards from 0.075 to 0.070 ppm. The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. As part of its enforcement responsibilities, the USEPA requires that each state with federal nonattainment areas prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain and maintain federal standards. The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution by using a combination of performance standards and market-based programs within the SIP-identified time frame.

TABLE 4.2-3
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary[a]	Secondary[b]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM10	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
PM2.5	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
SO_2	24 Hour	0.04 ppm (105 µg/m^3)	–	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
Lead	30-Day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-Month Avg.	–	0.15 µg/m^3	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)		

O_3: ozone; ppm: parts per million; µg/m^3: micrograms per cubic meter; PM10: respirable particulate matter less than 10 micrometers in diameter; AAM: Annual Arithmetic Mean; –: no standard; PM2.5: fine particulate matter less than 2.5 micrometers in diameter; CO: carbon monoxide; mg/m^3: milligrams per cubic meter; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; km: kilometer.

[a] *National Primary Standards:* The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

[b] *National Secondary Standards:* The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

Source: CARB 2016b.

State

CARB, a part of the California Environmental Protection Agency (Cal-EPA), is responsible for the coordination and administration of both federal and State air pollution control programs in California. In this capacity, CARB conducts research; sets the California Ambient Air Quality Standards (CAAQS) shown in Table 4.2-3; compiles emission inventories; develops suggested control measures; provides oversight of local programs; and prepares the SIP. For regions that do not attain the CAAQS, CARB requires the air districts to prepare plans for attaining the standards. These plans are then integrated into the State SIP. CARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to reduce vehicular emissions of harmful pollutants.

Regional

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the SoCAB, which includes all of Orange County and the urbanized portions of Los Angeles, Riverside, and San Bernardino Counties. The SCAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary. In response to federal and State requirements to implement measures to achieve the NAAQS and CAAQS, the SCAQMD is responsible for reducing emissions from stationary (area and point), mobile, and indirect sources. It has responded to this requirement by preparing a sequence of air quality management plans (AQMPs). An AQMP establishes a program of rules and regulations directed at attaining the NAAQS and CAAQS.

The current regional plan applicable to the proposed Project is the SCAQMD's 2016 AQMP. The 2016 AQMP replaces the 2007 AQMP discussed in the March 2009 LRDP Amendment Final EIR and the 2012 AQMP that was adopted subsequent to the 2007 AQMP. The AQMP control measures and related emission reduction estimates are based on emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections.

The AQMP and SIP processes generally occur concurrently: The SIP is required under the CAA to provide the framework for nonattainment areas to come into attainment, and the AQMP is prepared by the SCAQMD, in part, to satisfy the requirement for the SIP. The AQMP traditionally evaluates all nonattainment and maintenance criteria pollutants; portions of the AQMP represent the required SIP elements, which are then transmitted to CARB for review and approval before being transmitted to the USEPA for inclusion in the overall California SIP.

As previously identified, the SoCAB is currently designated as a nonattainment area for the federal and State O_3 standards, the State PM10 standards, and the federal and State PM2.5 standards. The Los Angeles County portion of the SoCAB is a federal nonattainment area for lead. Currently, PM10, CO, and NO_2 are designated "Attainment/Maintenance areas" for federal standards. The current status of the SIPs for these nonattainment pollutants are shown below:

- On November 28, 2007, CARB submitted a SIP revision to the USEPA for O_3, PM2.5 (1997 Standard), CO, and NO_2 in the SoCAB. This revision is identified as the "2007 South Coast SIP". The 2007 South Coast SIP demonstrates attainment of the federal PM2.5 standard in the SoCAB by 2014 and attainment of the federal eight-hour O_3 standard by 2023. This SIP also includes a request to reclassify the O_3 attainment designation from

"severe" to "extreme". The USEPA approved the redesignation effective June 4, 2010. The "extreme" designation requires the attainment of the eight-hour O_3 standard in the SoCAB by June 2024. CARB approved PM2.5 SIP revisions in April 2011 and the O_3 SIP revisions in July 2011. The USEPA approved the PM2.5 SIP on September 25, 2013, and has approved 46 of the 61 1997 8-hour O_3 SIP requirements (USEPA 2017a). On November 30, 2014, the USEPA proposed a finding that the SoCAB has attained the 1997 PM2.5 standards. In July 2016, the USEPA determined that the SoCAB had attained the 1997 PM2.5 standards; however the SoCAB was not redesignated as an attainment area because the USEPA had not approved a maintenance plan and additional requirements under the CAA had not been met (USEPA 2017b, 2016)

- On December 7, 2012, the SCAQMD adopted the 2012 AQMP, which was a regional and multiagency effort (the SCAQMD, CARB, the Southern California Association of Governments [SCAG], and the USEPA). The 2012 AQMP incorporates the latest scientific and technical information and planning assumptions, including SCAG's 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), updated emission inventory methods for various source categories, and SCAG's latest growth forecasts. The primary purposes of the 2012 AQMP were to demonstrate attainment of the federal 24-hour PM2.5 standard by 2014 and to update the USEPA-approved 8-hour Ozone Control Plan. On December 20, 2012, the 2012 AQMP was submitted to CARB and the USEPA for concurrent review and approval for inclusion in the SIP. The 2012 AQMP was approved by CARB on January 25, 2013. The USEPA has not approved the 2012 AQMP portion of the SIP (USEPA 2017a).
- On March 3, 2017, the SCAQMD adopted the 2016 AQMP (CARB 2017). The 2016 AQMP includes strategies and measures to meet the following NAAQS (SCAQMD 2016b):
    - 2008 8-hour O_3 (75 parts per billion [ppb]) by 2031[3]
    - 2012 Annual PM2.5 (12 micrograms per cubic meter [µg/m^3]) by 2025
    - 1997 8-hour O_3 (80 ppb) by 2023
    - 1979 1-hour O_3 (120 ppb) by 2022
    - 2006 24-hour PM2.5 (35 µg/m^3) by 2019

4.2.3 PROJECT IMPACTS AND MITIGATION

Methods

The SCAQMD recommends that projects be evaluated in terms of their quantitative thresholds, which have been established to assess both the regional and localized impacts of project-related air pollutant emissions. The significance thresholds are updated, as needed, to appropriately represent current ambient air quality standards and attainment status. UCLA utilizes the SCAQMD-recommended thresholds that are in place at the time development projects are proposed in order to assess the significance of quantifiable emissions. The current SCAQMD thresholds are identified below under "Thresholds of Significance", and are applied to the proposed Project. Determinations of significance for construction-related and operational

[3] On October 1, 2015, the USEPA lowered the 8-hour O_3 standard to 0.070 parts per million (ppm) (70 ppb). The SIP (or AQMP) for the 70 ppb standard will be due 4 years after the attainment/nonattainment designations are issued by the USEPA, which is expected in 2017. Thus, meeting the 70 ppb standard will be addressed in a 2021 AQMP.

emissions were based on the comparison of proposed Project-generated emissions to applicable SCAQMD thresholds.

Construction and Operations Mass Daily Emissions

Construction and operational emissions for the proposed Project were calculated by using the California Emissions Estimator Model (CalEEMod®), Version 2016.3.1. CalEEMod is a computer program developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with the California Air Districts and is used to estimate anticipated emissions associated with land development projects in California. CalEEMod calculates emission rates for criteria pollutants utilizing the EMission FACtor model (EMFAC 2014) for on-road vehicles, OFFROAD 2011 for off-road vehicles, and USEPA formulas for non-vehicular emissions (CAPCOA 2016). CalEEMod has separate databases for specific counties and air districts. The Los Angeles County database was used for the proposed Project. The model calculates emissions of CO, PM10, and PM2.5 and the O_3 precursors VOC and NOx.[4] For this analysis, the results are expressed in pounds per day (lbs/day) and are compared with the SCAQMD mass daily thresholds to determine impact significance. Specific inputs to CalEEMod for both construction and operations include land uses and building areas. Construction input data include, but are not limited to, (1) the anticipated start and finish dates of each proposed Project construction activity (e.g., demolition, grading, building, and paving); (2) inventories of construction equipment to be used during each activity; (3) areas to be excavated and graded; (4) volumes of materials to be exported from the project site; (5) areas to be paved; and (6) areas to be painted. The input data and assumptions are discussed below and included in Appendix C. CalEEMod has the capability to calculate reductions in construction emissions from the effects of dust control, diesel-engine classifications, low-emission paints, and other selected measures.

Because CalEEMod does not have the capability to calculate architectural coating emissions separately for projects with multiple sites, some painting VOC emissions were calculated manually and added to CalEEMod outputs as appropriate.

Operational inputs to CalEEMod for criteria pollutant emissions calculations include (1) the specific year for project operations; (2) vehicle trip generation rates and fleet mix; (3) project-specific estimate of natural gas use; (4) emergency generator size and use; and (5) energy reduction attributable to energy efficient design. It should be noted that with the increase in on campus residents, the proposed Project would have a reduction of 77 daily trips (taking into consideration student residents and new employees at the proposed housing sites) (Crain and Associates 2017). This reduction in daily trips would be offset by new trips associated with deliveries and service/maintenance vehicles, which in some cases only occur weekly, twice weekly, or only in the summer. Conservatively assuming these potential trips would occur on the same day, there would be approximately 50 new daily trips. Therefore, there would be a net reduction of approximately 27 trips with implementation of the proposed housing projects. For purposes of air quality analysis, the change in trip generation would be negligible and mobile source emissions are not calculated.

Output operational emissions data are separated into energy use, area sources, and stationary sources. The area sources are landscape maintenance equipment, consumer products, and architectural coatings used for routine maintenance. Consumer products (e.g., household cleaners, air fresheners, automotive products, and personal care products) emit VOCs. For

[4] CalEEMod also calculates emissions of SO_2, carbon dioxide (CO_2), and other pollutants. CO_2 and methane emissions are discussed in Section 4.6, Greenhouse Gas Emissions. As previously described, SO_2 emissions data are not used for the proposed Project because emissions of these pollutants would be negligible.

CalEEMod emissions analysis, stationary sources are emergency generators; boilers for hot water and heating are included in natural gas calculations.

In August 2010, the California Air Pollution Control Officers Association (CAPCOA) published *Quantifying Greenhouse Gas Mitigation Measures, A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures.* This document provides guidance on the quantification of project-level vehicle miles traveled (VMT) reductions associated with land use factors. The concepts in the CAPCOA document were incorporated into CalEEMod.

Local Concentrations of Criteria Pollutants from On-Site Sources

As part of the SCAQMD's environmental justice program, attention has focused on local air quality impacts from nearby sources. The SCAQMD developed the localized significance threshold (LST) look-up tables to allow the evaluation of localized impacts for many projects and scenarios without the complex task of dispersion modeling. The tables show the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard. The LST methodology is recommended for project sites that are five acres or less (SCAQMD 2008).

Carbon Monoxide Hotspots

A CO hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near intersections. An initial screening procedure is provided in the procedures and guidelines contained in the Transportation Project-Level Carbon Monoxide Protocol (the CO Protocol) to determine whether a project poses the potential for a CO hotspot (UCD ITS 1997). The key criterion is whether the project would worsen traffic congestion at signalized intersections operating at Level of Service (LOS) E or F. If, according to the CO Protocol, a project poses a potential for a CO hotspot, quantitative screening is required.

Health Risk Assessment

A Health Risk Assessment (HRA) is a process used to estimate the increased risk of health problems in people who are exposed to TACs. An HRA has been prepared to identify potential health impacts to off campus residential and industrial receptors that would result from implementation of the proposed housing projects and associated operations. To accomplish this assessment, current risk estimating methodologies were used to fairly represent potential health impacts under conservative emission and potential exposure assumptions.

The HRA was prepared in accordance with the most recent Cal-EPA, Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines using the Hotspots Analysis and Reporting Program (HARP) Version 2.0 published by California Air Resources Board. Use of the OEHHA guidelines, which have been adopted by the SCAQMD, results in a worst-case analysis of risk. Actual risks from the evaluated sources are likely to be substantially lower than those estimated using the OEHHA guidelines. The HARP program integrates emission information, air dispersion modeling, and risk assessment algorithms (OEHHA 2015; CARB 2017b; SCAQMD 2015b).

It should be noted that the HRA has been prepared to assess long-term health risks associated with the emission of toxic air contaminants that may be reportable to the SCAQMD under the annual emission reporting (AER) process. Construction activities, which are transient and temporary, do not result in toxic air emissions considered reportable to the SCAQMD under the AER process, and therefore were not included in the HRA.

Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, a project will normally have a significant adverse environmental impact related to air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

South Coast Air Quality Management District Significance Thresholds

As the agency principally responsible for comprehensive air pollution control in the SoCAB, the SCAQMD has established significance thresholds to assess the regional and localized impacts of project-related air pollutant emissions. The significance thresholds are updated as needed to appropriately represent current ambient air quality standards and attainment status. The campus utilizes the SCAQMD-recommended thresholds that are in place at the time development projects are proposed in order to assess the significance of quantifiable impacts. Table 4.2-4 presents the current significance thresholds, including regional daily thresholds for short-term construction and long-term operational emissions, maximum incremental cancer risk and hazard index for TACs, and maximum ambient concentrations for evaluating local exposures (SCAQMD 2015a). A project with daily emission rates, risk values, or concentrations below these thresholds is considered to have a less than significant effect.

TABLE 4.2-4
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
THRESHOLDS OF SIGNIFICANCE

Mass Daily Thresholds (lbs/day)		
Pollutant	**Construction**	**Operation**
VOC	75	55
NOx	100	55
CO	550	550
PM10	150	150
PM2.5	55	55
SOx	150	150
Lead	3	3
Toxic Air Contaminants, Odor, and Greenhouse Gas Thresholds		
TACs[a]	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to Rule 402	
GHG	10,000 MT/yr CO_2e for industrial facilities	
Ambient Air Quality for Criteria Pollutants[b]		
NO_2	1-hour average ≥ 0.18 ppm Annual average ≥ 0.03 ppm	
CO	1-hour average ≥ 20.0 ppm (State) 8-hour average ≥ 9.0 ppm (State/federal)	
PM10	24-hour average ≥ 10.4 µg/m^3 (construction) 24-hour average ≥ 2.5 µg/m^3 (operation) Annual average ≥ 1.0 µg/m^3	
PM2.5	24-hour average ≥ 10.4 µg/m^3 (construction) 24-hour average ≥ 2.5 µg/m^3 (operation)	
Sulfate	24-hour average ≥ 1.0 µg/m^3	
Lead 30-day average Rolling 3-month average	1.5 µg/m^3 (State) 0.15 µg/m^3 (federal)	

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; SOx: sulfur oxides; TACs: toxic air contaminants; GHG: greenhouse gas; MT/yr CO_2e: metric tons per year of carbon dioxide equivalents; NO_2: nitrogen dioxide; ppm: parts per million; µg/m^3: micrograms per cubic meter.

[a] TACs (carcinogenic and noncarcinogenic).
[b] Ambient air quality threshold based on SCAQMD Rule 403.

Source: SCAQMD 2015a.

Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 LRDP Amendment Final EIR

The following Programs, Practices, and Procedures (PPs) and Mitigation Measures (MMs) were adopted as part of the March 2009 LRDP Amendment Final EIR, and are incorporated as part of the proposed Project and assumed in the analysis presented in this section. Note that changes to LRDP Final EIR PP 4.2-2(a) and PP 4.2-2(d) are shown in **bold-faced** and ~~strike-out~~ **type**; these changes have been made to (1) update the referenced air quality emission modeling program, and (2) reflect UCLA's current standard requirements for use of architectural coatings with reactivity-adjusted VOC content, respectively.

PP 4.2-2(a) *The campus shall continue to implement dust control measures consistent with SCAQMD Rule 403—Fugitive Dust during the construction phases of new project development. The following actions are currently recommended to implement Rule 403 and ~~have~~ **may** be~~en~~ quantified in the ~~URBEMIS~~ **CalEEMod** program ~~as being able to reduce dust generation between 5 and 84 percent depending on the measure or combination of measures used from the list below~~:*

- *Minimize land disturbance to the extent feasible.*
- *Apply water and/or approved nontoxic chemical soil stabilizers according to manufacturer's specification to all inactive construction areas (previously graded areas that have been inactive for 10 or more days).*
- *Apply water three times daily to all active disturbed areas.*
- *Replace ground cover in disturbed areas as quickly as possible.*
- *Enclose, cover, water twice daily, or apply approved chemical soil binders to exposed piles with 5 percent or greater silt content.*
- *Water active grading sites at least twice daily.*
- *Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour over a 30-minute period.*
- *All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer), in accordance with Section 23114 of the California Vehicle Code.*
- *Sweep streets at the end of the day if visible soil material is carried over to adjacent roads.*
- *Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip.*
- *Apply water three times daily or chemical soil stabilizers according to manufacturers' specifications to all unpaved parking or staging areas or unpaved road surfaces.*
- *Post and enforce traffic speed limits of 15 miles per hour or less on all unpaved roads.*

PP 4.2-2(b) *The campus shall continue to require by contract specifications that construction equipment engines will be maintained in good condition and in proper tune per manufacturer's specification for the duration of construction.*

PP 4.2-2(c) *The campus shall continue to require by contract specifications that construction operations rely on the campus' existing electricity infrastructure rather than electrical generators powered by internal combustion engines to the extent feasible.*

PP 4.2-2(d) *The campus shall purchase and apply **ultra-low VOC** architectural coatings **with reactivity-adjusted VOC content that meets or exceeds the requirements of** ~~accordance with~~ SCAQMD Rule 1113, thereby ensuring the limitation of VOCs during construction.*

MM 4.2-2(a) *The campus shall require by contract specifications that construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five minutes.*

MM 4.2-2(b) *The campus shall encourage contractors to utilize alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, and low-NOx fuel) to the extent that the equipment is reasonably commercially available and cost effective.*

MM 4.2-2(c) *The campus shall require by contract specifications that construction-related equipment used on site and for on-road export of soil meet USEPA Tier III certification requirements, as feasible.*

Impact Analysis

Threshold 2.1	Would the project conflict with or obstruct implementation of the applicable air quality plan?

The analysis of Impact 4.2-1 in Section 4.2, Air Quality, of the March 2009 LRDP Amendment Final EIR determined that implementation of the remaining development allocation contemplated under the 2002 LRDP, as amended in March 2009 (referred to hereafter as the Existing LRDP), would not obstruct implementation of any SCAQMD AQMPs and there would be a less than significant impact.

The purpose of the AQMP consistency discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and to discuss whether the proposed Project would interfere with the region's ability to comply with federal and State air quality standards. The SCAQMD's *CEQA Air Quality Handbook* states, "New or amended General Plan Chapters (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP" (SCAQMD 1993). Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the plan if it furthers one or more policies and does not obstruct other policies. As identified in the Handbook, the two principal criteria for conformance with an AQMP are (1) whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards and (2) whether the project would exceed the assumptions in the AQMP (SCAQMD 1993).

As discussed in the March 2009 LRDP Amendment Final EIR, the SCAQMD's 1997, 2003, and 2007 AQMPs were relevant to the implementation of the remaining development allocation contemplated under the Existing LRDP. The campus trip cap of 139,500 average daily trips (ADT), established in the 1990 LRDP and retained in the 2002 LRDP and the Existing LRDP, and the campus buildout limit of 1.89 million gross square feet (gsf), as established in the Existing LRDP, provide input to SCAG and SCAQMD trip generation and emissions forecasts. Currently, projects that are consistent with SCAG's 2016–2040 RTP/SCS are considered consistent with the 2016 AQMP since the 2016–2040 RTP/SCS forms the basis of the AQMP's land use and transportation control portions. Projects that are considered to be consistent with the AQMP would not interfere with attainment of air quality goals because this growth is presumed in the projections utilized in the formulation of the AQMP. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP.

As further discussed in Section 4.9, Land Use and Planning, of this Draft SEIR, the proposed Project would involve an amendment to the Existing LRDP to add 1,500,000 gsf of development allocation; this represents the net increase in square footage allocation when taking into consideration the buildings that would be demolished to accommodate the proposed housing projects. However, the proposed Project would not alter the trip cap of 139,500 ADT, which was established with the 1990 LRDP and maintained through the 2002 LRDP, as amended in March 2009. Based on the 2016 cordon counts, UCLA currently generates approximately 105,284 ADT, approximately 25 percent below the established trip cap. With a negligible change in trip generation resulting from the proposed on-campus student housing projects (net decrease), there would not be an exceedance of the existing trip cap. Further, with respect to the on-campus population, the proposed housing project would not increase the projected average daily student population or the projected number of on-campus staff anticipated by 2025. Notably, the proposed housing projects would generate approximately 145 new staff positions; however, it is anticipated these positions would be filled by the local labor pool.

Therefore, the proposed Project does not involve any actions that would exceed the SCAG trip generation forecasts, and implementation of the proposed Project would be consistent with the 2016 AQMP attainment forecasts.

As shown below under Threshold 2.2, proposed Project emissions would not exceed SCAQMD CEQA significance thresholds and would not result in an increase in the frequency or severity of existing air quality violations; cause or contribute to new violations; or delay timely attainment of air quality standards.

Consistent with the findings of the March 2009 LRDP Amendment Final EIR, the proposed Project would have a less than significant impact related to AQMP implementation.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have no impact related to conflicting with or obstructing the applicable air quality plan.

Threshold 2.2	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

The analysis of Impacts 4.2-2 and 4.2-3 in the March 2009 LRDP Amendment Final EIR determined that, even with application of the identified PPs, implementation of the remaining development allocation on campus could result in significant and unavoidable impacts related to the following:

- Construction emissions of NOx and
- Operational emissions of NOx and VOC.

As identified in the March 2009 LRDP Amendment Final EIR, individual proposed development projects on campus are subject to project-specific air quality impact analyses. Following is an analysis of the short-term construction-related and long-term operational emissions resulting from implementation of the proposed Project.

Construction-Related Emissions

Construction-related emissions are described as short-term, or temporary, in duration. Construction activities associated with the proposed housing projects would result in emissions of criteria air pollutants (i.e., PM10 and PM2.5, CO, and the O_3 precursors VOC and NOx) from (1) construction equipment that performs demolition of existing structures and excavation, grading, and erection of building materials; (2) on-road hauling of excavated soil and demolished materials; (3) material handling and transport; and (4) other miscellaneous activities, including worker commute vehicles and application of architectural coatings.

As described in Section 3.5.6, Construction Activities, of this Draft SEIR, there would be two construction periods. It is assumed that construction of the proposed housing at the Lot 15, Warren Hall, and UNEX sites would be initiated first, with completion estimated in 2021. Construction activities at the Drake Stadium and Bradley sites are estimated to be initiated in fall 2022 and spring 2023, respectively, and be completed by summer 2025. Construction at the latter two sites would not overlap with the construction activities at the Lot 15, Warren Hall, and UNEX sites.

Construction of the proposed housing projects would require common equipment such as excavators, dozers, backhoes, loaders, mobile cranes, forklifts, and welders. Project-generated construction emissions were modeled with CalEEMod, described in the Methods section above.[5] The CalEEMod input was based on the construction assumptions described below and in Section 3.0, Project Description, of this Draft SEIR. Where specific information was not known, engineering judgment and default CalEEMod settings and parameters were used. Where reasonably likely, construction activities at two or more sites were assumed to occur concurrently to provide a conservative analysis.

Compliance with SCAQMD Rules is required; it is therefore assumed that construction would be performed, as a minimum, in accordance with Rule 403, Fugitive Dust (SCAQMD 1976b) (PP 4.2-2[a]), and Rule 1113, Architectural Coatings (SCAQMD 1977) (PP 4.2-2[d]). All diesel construction equipment would be Tier 3 or better, as required by MM 4.2-2(c). CalEEMod, Rule 403 dust control measures and Tier 3 construction equipment are calculated in CalEEMod as "mitigation".

Lot 15, Warren Hall, and UNEX Sites

Demolition of the existing UNEX building is expected to occur in summer 2018, with site preparation and grading activities, building construction, and utility installation beginning in fall 2018. It is expected that construction at the UNEX site will be complete in spring 2021. Demolition, site preparation, and grading activities at the Lot 15 and Warren Hall sites would be initiated in fall 2018, with building construction and utility installation being initiated in winter 2018. It expected that construction at the Lot 15 site will be complete in spring 2021, and construction at the Warren Hall site will be complete in early (winter) 2022.

For purposes of analysis in this Draft SEIR, it is estimated that UNEX demolition would occur over a 2-month period and would require approximately 30 daily one-way truck trips to remove demolished materials. Construction equipment used for each construction activity assumed for the emissions analysis is listed in Appendix C, the modeling input-output data. Demolition at the Lot 15 and Warren Hall sites and grading at the UNEX site would occur concurrently over a 2-month period and would generate a combined approximately 162 daily one-way truck trips during that period. Building on all 3 sites was assumed to occur concurrently for 30 months with building

[5] As noted in the Methods section, some painting VOC emissions were calculated manually.

at the Warren Hall site continuing for an additional 6 months. Off-site sewer upgrades would be required as described in Section 3.0, Project Description. For analysis purposes, it was assumed that sewer and other off-site utilities work, if needed, would occur for six months, overlapping both the grading and initial building activities. One month of paving would occur at each site concurrent with the building activities. Interior painting would occur over an estimated four-month duration simultaneously at the Lot 15 and UNEX sites, and later at the Warren Hall site. Building exteriors would not be painted.

Table 4.2-5 summarizes the estimated emissions resulting from proposed construction activities at the Lot 15, Warren Hall, and UNEX sites. Construction-related regional air quality impacts were determined by comparing these modeling results with applicable SCAQMD significance thresholds, as shown.

TABLE 4.2-5
MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS FOR THE PROPOSED LOT 15, WARREN HALL, AND UNEX SITES

Year	Emissions (lbs/day)				
	VOC	**NOx**	**CO**	**PM10**	**PM2.5**
2018	7	94	103	16	7
2019	9	91	113	16	7
2020	8	64	101	15	6
2021	28	80	131	18	7
2022	19	4	12	2	1
Maximum Daily Emissions	***28***	***94***	***131***	***18***	***7***
SCAQMD Significance Thresholds (Construction) (Table 4.2-4)	75	100	550	150	55
Significant Impact?	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter less than 10 micrometers in diameter; PM2.5: fine particulate matter less than 2.5 micrometers in diameter; SCAQMD: South Coast Air Quality Management District.

Note: Calculations assume compliance with SCAQMD Rules 403 and 1113 (see PP 4.2-2[a] and PP 4.2-2[d]).

Emissions are the higher of summer or winter; see Appendix C.

Bradley and Drake Stadium Sites

Demolition and grading at the Drake Stadium site is expected to occur in winter 2022 for approximately three months followed by with building construction and utility installation. Building would continue until summer 2025. Site preparation and grading activities at the Bradley site would be initiated in spring 2023, with building construction and utility installation to begin in summer 2023 and continuing through summer 2025.

For purposes of analysis in this Draft SEIR, it is estimated that Drake Stadium demolition and grading would occur over a three-month period and would require approximately 11 truck trips (an average of less than one trip per day) to remove demolished materials. Construction equipment used for each construction activity assumed for emissions analysis is listed in Appendix C, the modeling input-output data. Grading at the Bradley site would occur over a three-month period and would generate approximately 126 daily one-way truck trips. One month of paving would occur at each site concurrent with the building activities. Interior painting would occur over a three-month duration simultaneously at both sites. Building exteriors would not be painted.

Table 4.2-6 summarizes the estimated emissions resulting from proposed construction activities at the Drake Stadium and Bradley sites. Construction-related regional air quality impacts were determined by comparing these modeling results with applicable SCAQMD significance thresholds, as shown.

TABLE 4.2-6
MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS FOR THE PROPOSED DRAKE STADIUM AND BRADLEY SITES

Year	Emissions (lbs/day)				
	VOC	NOx	CO	PM10	PM2.5
2022	<0.5	9	12	1	1
2023	4	54	54~~53~~	9	4
2024	4	31	51	8	3
2025	18	38	67	9	4
Maximum Daily Emissions	***18***	***54***	***67***	***9***	***4***
SCAQMD Significance Thresholds (Construction) (Table 4.2-4)	75	100	550	150	55
Significant Impact?	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter less than 10 micrometers in diameter; PM2.5: fine particulate matter less than 2.5 micrometers in diameter; SCAQMD: South Coast Air Quality Management District.

Note: Calculations assume compliance with SCAQMD Rules 403 and 1113 (see PP 4.2-2[a] and PP 4.2-2[d]).

Emissions are the higher of summer or winter; see Appendix C.

As shown in Tables 4.2-5 and 4.2-6, estimated regional construction emissions for the Lot 15, Warren Hall, and UNEX sites and for the Drake Stadium and Bradley sites, respectively, would be less than the SCAQMD CEQA significance thresholds; therefore, the project-specific construction emissions impact would be less than significant, and no mitigation would be required. Although not quantified, incorporation of PP 4.2-2(b) (maintain construction equipment in good condition), MM 4.2-2(a) (turn off equipment not in use for more than five minutes), and MM 4.2-2(b) (use of alternative fuel construction equipment) into construction activities for the proposed housing projects would provide further emissions reductions, principally to NOx and CO.

Operational Emissions

Operational emissions are composed of area, energy, and stationary source emissions. Area source emissions would result from landscape maintenance, periodic repainting, and use of consumer products. Energy emissions result from the use of natural gas for heating and hot water. Stationary source emissions are generated by test operations of emergency generators that would be installed at each site.[6] As previously discussed, the proposed housing projects would result in a negligible change in mobile emissions.

The operational emissions attributable to the proposed housing projects were calculated using CalEEMod and are shown in Tables 4.2-7 and 4.2-8. Table 4.2-7 shows calculated operational emissions in 2022 at the completion of the Lot 15, Warren Hall, and UNEX residences. Table 4.2-8 shows calculated operational emissions in 2025, with residences at all five sites operational. It

[6] The emissions from boilers used for space heating and hot water are included in the energy source emissions.

should be noted that these calculations are conservative because no credit (reduction) is taken for emissions from sources that would be removed from the sites and not replaced.

TABLE 4.2-7
MAXIMUM DAILY OPERATIONAL EMISSIONS FOR THE PROPOSED LOT 15, WARREN HALL, AND UNEX SITES (2022)

Source	Emissions (lbs/day)				
	VOC	**NOx**	**CO**	**PM10**	**PM2.5**
Area sources	31	1	112	1	1
Energy sources	<0.5	3	1	<0.5	<0.5
Stationary sources	2	9	6	<0.5	<0.5
Total Operational Emissions	***34***	***13***	***119***	***1***	***1***
SCAQMD Significance Thresholds (Operation) (Table 4.2-4)	55	55	550	150	55
Significant Impact?	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter less than 10 micrometers in diameter; PM2.5: fine particulate matter less than 2.5 micrometers in diameter; SCAQMD: South Coast Air Quality Management District.

Emissions are the higher of winter and summer seasons.

Totals may not add due to rounding error.

Note: CalEEMod data sheets are included in Appendix C.

TABLE 4.2-8
MAXIMUM DAILY OPERATIONAL EMISSIONS FOR THE PROPOSED FIVE RESIDENTIAL SITES (2025)

Source	Emissions (lbs/day)				
	VOC	**NOx**	**CO**	**PM10**	**PM2.5**
Area sources	39	2	142	1	1
Energy sources	<0.5	4	2	1	1
Stationary sources	3	11	7	<0.5	1
Total Operational Emissions	***~~46~~43***	***~~27~~16***	***~~160~~151***	***2***	***2***
SCAQMD Significance Thresholds (Operation) (Table 4.2-4)	55	55	550	150	55
Significant Impact?	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter less than 10 micrometers in diameter; PM2.5: fine particulate matter less than 2.5 micrometers in diameter; SCAQMD: South Coast Air Quality Management District.

Emissions are higher in winter and summer seasons.

Totals may not add due to rounding error.

Note: CalEEMod data sheets are included in Appendix C.

As shown in Tables 4.2-7 and 4.2-8, the operational emissions for the proposed housing projects would be less than the SCAQMD CEQA significance thresholds. The operational impact of the proposed housing projects on regional emissions would be less than significant, and no mitigation is required.

Interim Emissions

Construction of the Bradley and Drake Stadium housing would occur concurrently with the operation of the Lot 15, Warren Hall, and UNEX housing. In their NOP comment letter, the SCAQMD states, "for phased projects where there will be an overlap between construction and operation, the air quality impacts from the overlap should be combined and compared to the SCAQMD's regional operational thresholds to determine significance". The combination of emissions during this interim period is shown in Table 4.2-9.

TABLE 4.2-9
INTERIM COMBINED CONSTRUCTION AND OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)				
	VOC	**NOx**	**CO**	**PM10**	**PM2.5**
Bradley-Drake Stadium construction maximum daily emissions (Table 4.2-6)	18	54	67	9	4
Lot 15-Warren Hall-UNEX operational emissions (Table 4.2-7)	34	13	119	1	1
Total Interim Emissions	***52***	***67***	***186***	***10***	***5***
SCAQMD Significance Thresholds (Operation) (Table 4.2-4)	55	55	550	150	55
Exceed threshold?	**No**	**Yes**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter less than 10 micrometers in diameter; PM2.5: fine particulate matter less than 2.5 micrometers in diameter; SCAQMD: South Coast Air Quality Management District.

Note: CalEEMod data sheets are included in Appendix C.

As shown in Table 4.2-9, interim combined NOx emissions would exceed the SCAQMD operational significance thresholds. The NOx exceedance would peak in 2023 for an approximate three-month period during grading of the Bradley site. Subsequent to the Bradley site grading period, the combined interim NOx emissions would not exceed the SCAQMD NOx operational significance thresholds. Based on the use of SCAQMD operational significance thresholds, the impact would be potentially significant.

To reduce the maximum 2023 NOx emissions to a less than significant level, UCLA would require that Tier 4-certified diesel equipment be required for grading of the Bradley site (refer to MM AQ-1). With use of this equipment, the maximum daily 2023 NOx construction emissions are calculated to be 40 pounds per day. When these emissions are added to the 13 pounds per day operational emissions, the total emissions would be 53 pounds per day, which is less than the 55 pounds per day SCAQMD operational significance threshold. The impact would be less than significant with mitigation.

Additional Project-Level Mitigation Measures

<u>Bradley Site Only</u>

MM AQ-1 The campus shall require by Contractor Specifications that diesel engine driven construction equipment greater than 50 horsepower used for the grading of the Bradley site be certified to be Tier 4 compliant for NOx emissions.

Level of Significance after Mitigation

With the implementation of MM AQ-1, the proposed Project would have a less than significant impact regarding potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation during construction and operation.

Threshold 2.3	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The analysis of Impact 4.2-4 in the March 2009 LRDP Amendment Final EIR determined that, even with application of the identified PPs, implementation of the remaining development allocation on campus would result in significant and unavoidable impacts related to a cumulatively considerable net increase of pollutants (i.e., O_3, PM10, and PM2.5) for which the Project region is in nonattainment.

As identified in the March 2009 LRDP Amendment Final EIR, individual proposed development projects on campus are subject to project-specific air quality impact analyses to confirm that regional and local emissions are consistent with the March 2009 LRDP Amendment Final EIR. Regional significance is based on a daily emissions rate, and each project will have a different intensity. Local significance is based on the emissions intensity and the distance from nearby receptors to the project site. The SoCAB is a federal and/or State nonattainment area for O_3, PM10, and PM2.5. Therefore, cumulative regional emissions of VOCs and NOx (which are O_3 precursors) as well as PM10 and PM2.5 are addressed in the analysis of cumulative criteria pollutant emissions during construction and operation (see below). Although Los Angeles County is also a nonattainment area for lead, non-negligible lead emissions occur only at industrial facilities that process lead, such as lead smelters and lead-acid battery manufacturers and recycling plants. Since the proposed Project does not include lead processing activities, this analysis does not address lead emissions.

As identified in the March 2009 LRDP Amendment Final EIR, individual projects that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would be considered to cause a cumulatively considerable increase in emissions for those pollutants for which the SoCAB is in nonattainment. While individual projects, such as the proposed housing projects, could have emissions of criteria pollutants less than the SCAQMD thresholds, cumulative projects may have emissions that exceed the threshold, and concurrent emissions of the proposed Project and other projects could be considered cumulatively considerable.

Cumulative Construction Emissions

Implementation of the remaining development allocation contemplated under the 2002 LRDP, as amended in March 2009, could include individual projects that would have cumulative construction emissions that would exceed the SCAQMD mass emissions thresholds. The March 2009 LRDP Amendment Final EIR concluded that potential concurrent construction projects within and near the campus could result in cumulatively considerable emissions of O_3 precursors, PM10, and PM2.5.

The projected construction-related VOC and NOx emissions from the proposed housing projects would be less than the CEQA significance thresholds. Construction emissions of PM10 and PM2.5 would not exceed 13 percent of the applicable thresholds. Construction activities for the

Lot 15, Warren Hall, and UNEX housing projects are expected to be initiated in 2018 and completed by 2021. For purposes of this analysis, it assumed that construction activities for the Bradley and Drake Stadium housing sites are expected to be initiated in 2022 and completed by 2025, and would not overlap with the initial 3 housing projects.

However, these construction activities would occur at the same time as other UCLA construction projects, including the proposed Margan Apartments Redevelopment Project, located between the Warren Hall and UNEX sites in the Bridge zone; the Geffen Academy at UCLA located in the Southwest zone; and the Anderson School of Management Building Addition Project located approximately 0.3 mile east of the Drake Stadium site. Demolition of the existing Margan Apartments building is scheduled to occur in fall 2017, and construction is estimated to be completed by fall 2019. Remaining construction activities for the Geffen Academy at UCLA in the Southwest zone are limited to interior renovation/construction activities, and would be complete by September 2018. Construction for the Anderson School Building Addition is estimated to start in November 2017 and be completed by December 2019 before the currently estimated construction start date for the Drake Stadium site. It should be noted that the Mo Ostin Basketball Center will be completed in November 2017, before construction for the proposed student housing projects is initiated.

Although the projected construction emissions of the proposed housing projects would be less than significant at a project-specific level, there could be times when construction emissions from the proposed housing projects could be added to the VOC or NOx emissions of concurrent construction projects on and off campus (e.g., Margan Apartments) when exceedance of the threshold would potentially occur, and the emissions of the proposed housing projects would be a major contributor. Therefore, even with inclusion of PPs 4.4-2(b), 4.4-2(c), 4.4-2(d), and MMs 4.4-2(a), MM4.4-2(b) and 4.4-2(c), construction the proposed housing projects would potentially contribute to a cumulatively considerable net increase of O_3, a pollutant for which the SoCAB is in nonattainment (VOC and NOx are O_3 precursors). This is a significant unavoidable impact, consistent with the conclusions identified in the March 2009 LRDP Amendment Final EIR (Impact 4.2-4[c]).

Cumulative Operational Emissions

The March 2009 LRDP Amendment Final EIR states the following (UCLA 2009):

> Operational activities associated with remaining buildout of the 2002 LRDP, as amended, would result in project-generated emissions of VOC and NOx that exceed SCAQMD's applicable threshold. As a result, long-term operational emissions would be significant. The exceedance of the VOC threshold would be principally due to (1) additional vehicle trips resulting from increased students, staff, and visitors and (2) increased on-campus residents using consumer products containing VOC. The NOx exceedance is almost entirely due to the additional vehicle trips.

As discussed above, there would be a small net decrease in daily vehicles associated with implementation of the proposed housing projects; therefore, for a conservative analysis, mobile emissions are not considered in this analysis. There would be an increase in area source emissions of VOC, as shown in Tables 4.2-7 and 4.2-8 primarily due to the increased campus population and use of consumer products. There would also be an increase of NOx (an O_3 precursor), primarily due to the test operation of emergency generators, but this increase would be limited to once monthly for each generator; this testing would not occur concurrently and would last approximately 30 minutes. The increase of PM10 and PM2.5 would be minimal. While the housing project's operational emissions of O_3 precursors would be less than the SCAQMD CEQA

significance thresholds, the operations of the proposed housing projects would contribute to a cumulatively considerable net increase of a pollutant for which the SoCAB is in nonattainment. This would be a significant and unavoidable impact, consistent with conclusions identified in the March 2009 LRDP Amendment Final EIR (Impact 4.2-4c).

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

Although project-specific construction and operational air quality impacts resulting from the proposed housing projects would be less than significant on a project-specific level; the housing projects would contribute to a cumulatively considerable net increase in emissions of a pollutant for which the SoCAB is in nonattainment (O_3). This is a significant and unavoidable cumulative impact, consistent with the findings of the March 2009 LRDP Amendment Final EIR (Impact 4.2-4c).

Threshold 2.4	Would the project expose sensitive receptors to substantial pollutant concentrations?

The March 2009 LRDP Amendment Final EIR evaluated exposure of local sensitive receptors to CO hotspots and substantial criteria pollutant concentrations based on the SCAQMD's LST or pollutant emissions from campus-generated toxic air emissions. Potential impacts were determined to be less than significant. The proposed Project-specific analysis presented below indicates that the proposed housing projects would have a less than significant impact, consistent with the conclusion presented in the LRDP Final EIR.

Local Construction Emissions

Local construction emissions impacts are assessed by comparing the on-site emissions to screening thresholds. Emissions generated off-site from haul trucks, vendor trucks, and worker vehicles are not included. The SCAQMD has promulgated exposure standards and a conservative, simple LST screening methodology for construction sites less than five acres in area (SCAQMD 2008). The LST methodology provides tables of emissions limits based on the location of the project area, size of the project area, and distance to the sensitive receptor. The pollutants analyzed are NOx, CO, PM10, and PM2.5.

LST emissions thresholds are determined by site area and distance to receptors. The proposed housing site areas range from 1.0 to 3.9 acres, with added areas for potential disturbance during construction. The LST thresholds used for this analysis are the most conservative 1.0-acre thresholds, except as noted below. As described in Section 4.2.1, the closest sensitive receptors to the Project construction areas are at distances from 20 to 70 feet. For the proposed housing projects, the distance to the sensitive receptor used for analysis is 25 meters,[7] which is the minimum distance prescribed for the LST methodology for all source-to-receptor distances of 25 meters or less. Thresholds are specific for SRA 2, Northwest Coastal Los Angeles County (SCAQMD 2009).

- **NOx Emissions**. The applicable threshold is 103 pounds per day The maximum daily on-site NOx emissions are calculated at 57 pounds per day. This maximum would occur in

[7] The methodology for LST analysis uses the metric system for distance factors.

2023 during the concurrent building construction and paving at the Lot 15, Warren Hall, and UNEX sites. Therefore, the on-site emissions at any one site would be less than 57 pounds per day and less than the 103 pounds per day threshold.

- **CO Emissions**. The applicable threshold is 562 pounds per day. The maximum daily on-site CO emissions are calculated to be 72 pounds per day. This maximum would occur in 2023 during the concurrent building construction and paving at the Lot 15, Warren Hall, and UNEX sites. Therefore, the on-site emissions at any one site would be less than 72 pounds per day and less than the 562 pounds per day threshold.
- **PM10 Emissions**. The 1-acre threshold is 4 pounds per day, the 2-acre threshold is 6 pounds per day, and the 5-acre threshold is 13 pounds per day.[8] The maximum on-site PM10 emissions of 5.2 pounds per day would occur during concurrent grading on the Lot 15, Warren Hall, and UNEX sites. It is reasonable to assume that on-site emissions, composed of fugitive dust and construction equipment exhaust, would be proportional to the site area. The threshold for the 3.9-acre Warren Hall site is interpolated from the 2- and 5-acre thresholds. For the Lot 15 site, the PM10 emissions would be 1.7 pounds per day, which is less than the 1-acre threshold of 4 pounds per day. For the Warren Hall site, the PM10 emissions would be 3.1~~3.9~~ pounds per day, which is less than the 3.9-acre threshold of 10.4 pounds per day. For the UNEX site, the PM10 emissions would be 1.0 pounds per day, which is less than the 1-acre threshold of 4 pounds per day.
- **PM2.5 Emissions**. The 1-acre threshold is 3 pounds per day, the 2-acre threshold is 4 pounds per day, and the 5-acre threshold is 6 pounds per day. The maximum on-site PM2.5 emissions of 3.1 pounds per day would occur in 2023 during the concurrent building construction and paving on the Lot 15, Warren Hall, and UNEX sites. It is reasonable to assume that on-site emissions, composed of fugitive dust and construction equipment exhaust, would be proportional to the site area. The threshold for the 3.9-acre Warren Hall site is interpolated from the 2- and 5-acre thresholds. For the Lot 15 site, the PM2.5 emissions would be 1.3 pounds per day, which is less than the 1-acre threshold of 3 pounds per day. For the Warren Hall site, the PM2.5 emissions would be 3.1 pounds per day, which is less than the 3.9-acre threshold of 5.3 pounds per day. For the UNEX site, the PM2.5 emissions would be 0.5 pound per day, which is less than the 1-acre threshold of 3 pounds per day.

The proposed housing projects include PP 4.2-2(a) for fugitive dust control and, as shown in the above analysis, the estimated maximum daily on-site construction emissions would not exceed the SCAQMD LSTs, and the impact from exposure to construction emissions near the closest sensitive receptor would be less than significant, consistent with the findings of the March 2009 LRDP Amendment Final EIR.

Local Operational Emissions

Criteria Pollutants

With respect to operational vehicular emissions, exposure of sensitive receptors to proposed Project-related pollutants that are generated off site is of concern if the project contributes substantial traffic to severely congested, high-volume, signalized intersections with an associated potential increase in local CO concentrations (i.e., CO hotspots).

As further discussed in Section 4.13, Transportation and Traffic, the proposed housing projects would have a net negative trip generation for daily and AM peak hour trips, and would add only

[8] The most conservative 1-acre thresholds are used for NOx and CO, regardless of the site area. For PM10 and PM2.5, site area-appropriate thresholds are interpolated from the 1, 2, and 5-acre data.

approximately 12 trips during the PM peak hour. The proposed housing projects would not result in any significant transportation impacts. Therefore, it is concluded that the proposed housing projects would not contribute substantial traffic to any severely congested, high-volume, signalized intersection and there would be no potential for a CO hotspot. The impact would be less than significant.

Toxic Air Contaminant Emissions

In the evaluation of the new sources at the proposed housing sites, the final configuration of potential emission devices is unknown; however, proposed building plans and current needs and uses at UCLA were identified to approximate emission sources. To further assist in approximating future emissions, existing UCLA devices with known emissions, uses, and device parameters were identified.

In general, the potential emission sources proposed are characterized as either point or area sources. Point sources are single identifiable sources from an independent location (e.g., large boilers and generator), whereas area and sources are emission sources which operate within a certain locale (e.g., the many residential natural gas units).

Emergency Generators

These generators are only used during emergency situations when power to the University is down. In addition to emergency situations, these generators would be routinely tested by UCLA staff to ensure emergency readiness. The emergency generators are considered point sources, with identifiable exhaust stacks and associated exhaust exit parameters. Consistent with the OEHHA, the primary TAC emitted from these internal combustion engines (ICEs) for HRA inclusion are diesel particulates.

The proposed Project involves the installation of five new generators (one at each of the housing sites). Each of the new generators are assumed to be equipped with diesel particulate filters, resulting in an emission rate of 0.01 gram per horsepower-hour (g/hp-hr). Final plans and specifications are not currently unavailable, but generator needs were assumed as follows:

- **Warren Site (750-kilowatt [kW] generator)**. To model this generator, data from three existing 750 kW generators (ES14 at MSB, ES98 at Pauley Pavilion, and ES11at Engineering IV[9]) were identified. These generators averaged 8.1 hours of operation and used an average of 158 gallons of diesel.
- **Drake, Bradley, and Lot 15 Sites (one 650-kW generators [856 hp] at each location)**. The generators for these sites were assumed to be similar to the generator installed at the De Neve Gardenia residence hall. The De Neve Gardenia generator is an 856-hp unit that was operated for 7.8 hours in 2016 and burned 107 gallons of diesel.
- **UNEX Site (1,250-kW generator)**. To model this generator, data from two 1,250-kW generators (ES35 at Gonda, ES76 at Police CSB1) were identified. These generators averaged 8.9 hours of operation and used an average of 275 gallons of diesel.

Boilers

Natural gas fueled boilers are used for heating and hot water usage for campus activities and housing requirements. Large boilers at UCLA are considered point sources, with identifiable exhaust stacks and associated exhaust exit parameters. The AER identifies several volatile

[9] At UCLA, known existing emission devices are given an “ES” prefix designation.

organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs) associated with boiler emissions.

- **Warren Site.** For purposes of conducting the HRA, the needs of the proposed housing at the Warren site are assumed to be 41.7 million British thermal units (MMBtu). To estimate impacts from these needs, it was assumed that there are three 12.5-MMBtu boilers (ES106), two 2-MMBtu boilers (ES153) and one 0.2-MMBtu boiler (ES283).
- **Lot 15, Bradley, Drake Sites**. For purposes of conducting the HRA, the needs at these sites are assumed to be 25.6 MMBtu. It was also assumed that two 12.5-MMBtu units (described by ES 106) are representative of potential boiler installation at the Drake Stadium site. An additional 0.63-MMBtu boiler was assumed to be installed at this location (as described by ES276, which is the 0.63-MMBtu boiler at the Tennis Center).
- **UNEX Site**. For purposes of conducting the HRA, the needs at this site was assumed to be a total of 5.67 MMBtu, assuming that a 1.67-MMBtu boiler is the same as the existing UNEX unit (ES176) (which would be reused), and the other two 2-MMBtu units are similar to the 2-MMBtu unit installed at De Neve Gardenia (ES154).

Residential Natural Gas Combustion Sources

On campus housing requires the use of natural gas burning ovens, dryers, and heaters. Emissions from these devices are reported in the AER. Currently, these devices support the housing needs for approximately 12,900 students. The AER identifies several VOCs and PAHs associated with the natural gas combustion emissions.

The proposed Project involves expanding on-campus housing by 6,900 beds, representing an approximate 54 percent increase in available housing on campus. To support the residences, it is assumed that boilers, ovens, dryers, and heater use (and subsequent emissions), are proportional to current uses and emissions. Therefore, the HRA analysis presented in this Draft SEIR assumes that emissions from these sources would be increased by 54 percent. These devices are numerous, and are expected to be utilized throughout the residential complexes and are therefore represented as area sources. These emissions were assumed to originate from the approximate locations of the proposed residential areas and modeled as area sources. The emissions from each proposed location were assumed to represent the following percentages of the emissions reported in the AER:

- **Lot 15 Site (1,800 beds):** 14.0 percent
- **Warren Hall Site (2,350 beds):** 18.2 percent
- **UNEX Site (1,350 beds):** 10.5 percent
- **Bradley Site (600 beds):** 4.7 percent
- **Drake Stadium Site (800 beds):** 6.2 percent

Results

The assessment of potential health impacts in the HRA are presented in terms of off-site (off campus) exposures and are estimates of carcinogenic risk and noncarcinogenic hazard (for both chronic and acute exposures). By estimating off-site impacts resulting from proposed additions and operations at UCLA, the results can be compared to levels typically considered acceptable by the regulatory community. The HARP model provides results expressed as carcinogenic risk and noncarcinogenic hazard. Carcinogenic risks are expressed in terms of probabilities. That is, a probabilistic expression is calculated to indicate the number of cancers that can be expected

within a population (the lower the number the lower the probability). For example, the probability expressed as 1 x 10^{-5} can be read as a probability of cancer of 1 in 100,000. As a point of reference, the USEPA considers carcinogenic risk probabilities ranging from 10^{-4} to 10^{-6} as "safe". Under the SCAQMD Rule 1402, Control of Toxic Air Contaminants from Existing Sources, a notification risk level of 10x10^{-6} (10 in 1 million) is identified (SCAQMD 1994); this is also the SCAQMD CEQA threshold of significant (refer to Table 4.2-4).

For noncarcinogens, the indicator calculated is a noncarcinogenic hazard. The hazard index (HI) is the ratio of the modeled air concentration divided by the chemical specific Reference Concentration (RfC), which is a level believed to be without deleterious health impacts to sensitive subpopulations. A total HI less than unity, or one, is believed to be without adverse health effects to the most sensitive subpopulations. Under the SCAQMD Rule 1402, a total acute or HI of one (1.0) is identified as a notification level (SCAQMD 1994); this is also the SCAQMD CEQA threshold of significant (refer to Table 4.2-4).

- **Residential Impacts.** The assessment of potential residential impacts represents a health-protective scenario as it assumes long-term exposures at a single residential location. For example, this scenario assumes exposures occur for 24 hours a day, 350 days per year, for 30 years. The off-site point of maximum impact (PMI) under a residential exposure from all anticipated new sources was estimated to be on Weyburn Place, near the current Warren Hall building. The residential risk at this location is 5 x 10^{-7} (0.24 in 1 million), and chronic and acute hazards were estimated to be 0.009, and 0.022, respectively. Residential (non-student) units are near this point, and therefore it is assumed to represent the residential PMI.
- **Commercial/Industrial Impacts.** The assessment of potential commercial/industrial impacts also represents a health protective scenario as it assumes long-term exposures. This scenario differs from the residential as it assumes exposures during a working day (e.g., 8 hours per day for 250 days per year), over a period of 25 years. The off-site PMI under industrial exposures from all anticipated new sources was estimated to be near the southwest corner of Gayley Avenue and Le Conte Avenue. The risk to a worker at this location is 1.4 x 10^{-8}, and chronic and acute HI were estimated to be 0.004 and 0.02, respectively.

Potential health risks for proposed housing projects were estimated using currently acceptable methodologies of the SCAQMD. The sources evaluated for each of the proposed residential facilities included emergency generators, boilers, and additional natural gas-fueled devices. Although exact emission devices and configurations are not known, project information to date and existing UCLA emission devices were reviewed to approximate emissions from future sources associated with the new residential facilities. The evaluation of these devices indicate that carcinogenic risk and noncarcinogenic hazards are below levels of significance identified by the SCAQMD. That is, all risks were determined to be less than 10 x 10^{-6}, and hazards less than 1.

Therefore, potential impacts would be less than significant, and no mitigation is required.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have a less than significant impact related to exposure of sensitive receptors to substantial pollutant concentrations during construction and operations.

Threshold 2.5	Would the project create objectionable odors affecting a substantial number of people?

Based on the Initial Study prepared for the March 2009 LRDP Amendment Final EIR, implementation of development under the Existing LRDP would have no impact related to objectionable odors.

Construction

Construction activities may generate some odors during construction, such as diesel exhaust associated with operating construction vehicles. These odors are typical of urbanized environments and would be subject to construction and air quality regulations, including proper maintenance of machinery to minimize engine emissions. These emissions would occur during daytime hours and would be isolated to the immediate vicinity of construction activities. The odors would not be objectionable because any odors that occur would quickly disperse into the atmosphere. Consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be a less than significant impact related to construction-related odors.

Operation

The proposed housing projects do not propose an odor-generating use identified by the SCAQMD (e.g., wastewater treatment plants, agricultural operations, landfills, composting, food processing plants, chemical plants, refineries) and would not create an odor nuisance pursuant to Rule 402. Furthermore, none of these odor-generating land uses are located in the vicinity of the proposed housing sites. Long-term operations may involve minor odor-generating activities such as landscape maintenance equipment exhaust, fertilizers, and cooking. These odors would be relatively short-term for each occurrence and local in area of perception and would not affect a substantial number of people. Further, these types and concentrations of odors currently occur at residences on and off campus near the proposed housing sites. Therefore, as previously analyzed and concluded in the LRDP Final EIR, the proposed housing projects would not generate objectionable odors affecting a substantial number of people, and no mitigation is required.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have less than significant impacts related to creation of odors affecting a substantial number of people during construction and operation.

4.2.4 CUMULATIVE IMPACTS

Cumulative development is not expected to result in a significant impact in terms of conflicting with, or obstructing implementation of, the AQMP. The AQMP was prepared to accommodate growth; to reduce the high levels of pollutants in SCAQMD jurisdictional areas; to return clean air to the region; and to minimize the impact on the economy. Growth considered to be consistent with the AQMP would not interfere with attainment. The current 2016 AQMP is focused on

attainment of O_3 and PM2.5 standards, and vehicle emissions are the primary source of VOC and NOx (O_3 precursors) and PM2.5 associated with growth. The proposed housing projects would reduce ADT, with a negligible change in mobile emissions. Further, as described in Section 3.7.4, of this Draft SEIR, the proposed Project would not involve any modifications to the previously adopted campus-wide vehicle trip generation cap and parking limits. Therefore, the proposed housing projects would not conflict with the AQMP. This is considered to be a less than significant cumulative impact.

With regard to determining the significance of a project's contribution, the SCAQMD neither recommends quantified analyses of cumulative construction emissions nor provides methodologies or thresholds of significance to be used to assess cumulative construction impacts. Individual construction projects that exceed the SCAQMD-recommended daily mass emission thresholds for project-specific impacts would be considered to cause a cumulatively considerable increase in regional emissions, and individual construction projects that do not exceed the emissions thresholds for project-specific impacts would not be considered to cause a cumulatively considerable increase in regional. Consistent with approach taken in the March 2009 LRDP Amendment Final EIR, for the purposes of this Draft SEIR, individual construction projects that exceed the SCAQMD-recommended daily mass emission thresholds for project-specific impacts would be considered to cause a cumulatively considerable increase in regional emissions for those pollutants for which the SoCAB is in nonattainment. As discussed previously under Threshold 2.3, although construction of the proposed housing projects would have emissions of criteria pollutants less than the SCAQMD thresholds even when considering construction of multiple sites at the same time (Lot 15, Warren Hall, and UNEX sites—and subsequently the Bradley and Drake Stadium sites), it is possible that concurrent emissions during construction of the proposed housing projects and other on- and off-campus projects would be cumulatively considerable and that mitigation measures at the proposed housing sites would not reduce the emissions to less than the SCAQMD significance thresholds. It should be noted that the Campus has no control over emissions and mitigation at off-campus projects. Therefore, during construction, the proposed housing project would contribute to a cumulatively considerable net increase of O_3, a pollutant for which the SoCAB is in nonattainment. This is a significant unavoidable impact, consistent with the analysis and conclusions identified in the March 2009 LRDP Amendment Final EIR (Impact 4.2-4c).

As discussed in Impact 4.2-4c of the March 2009 LRDP Amendment Final EIR, the buildout of the Existing LRDP would result in direct significant and unavoidable long-term regional air quality impacts, because the forecasted daily emissions of NOx, an O_3 precursor, would exceed the SCAQMD significance threshold. As discussed under Threshold 2.3 previously, the increase of operational PM10 and PM2.5 from the proposed housing projects would be minimal. The project emissions of O_3 precursors would be small compared to the SCAQMD CEQA significance thresholds; however, operation of the proposed housing projects would contribute to a cumulatively considerable net increase of a pollutant for which the SoCAB is in nonattainment. Thus, the proposed housing projects would contribute to a significant and unavoidable cumulative long-term regional air quality impact. This is a significant unavoidable impact identified in the March 2009 LRDP Amendment Final EIR (Impact 4.2-4c).

Cumulative development is not expected to expose sensitive receptors to substantial pollutant concentrations. With respect to vehicle-generated CO, as described in Threshold 2.4, the proposed housing projects would not contribute substantial traffic to any severely congested, high-volume, signalized intersection and there would be no potential for a CO hotspot, which is a cumulative analysis. Therefore, the cumulative impact would be less than significant.

Threshold 2.4 also addresses direct impacts from on-site construction emissions to nearby sensitive receptors. For the Lot 15, Bradley, and Drake Stadium sites, there are no identified

concurrent construction projects that have the potential for cumulative local impacts from on-site pollutant generation. Construction at the Warren Hall and UNEX sites would occur concurrently with construction at the adjacent Margan Apartments Redevelopment Project from approximately March 2018 through the completion of the Margan Apartments in mid-2019. As described in Threshold 2.4, maximum NOx and CO emissions would be less than SCAQMD thresholds and would occur in 2021, after the Margan Apartments construction is complete. During the 2018–2019 period of concurrent construction, on-site NOx emissions from the Warren Hall and UNEX sites would be approximately 15 percent of the applicable threshold for each site, and CO emissions would be less than 5 percent of the applicable LSTs for each site. The maximum on-site construction NOx and CO emissions from the Margan Apartments site would be less than ten percent and five percent of the applicable thresholds (UCLA 2016). Therefore, the NOx and CO local impacts from the UNEX and Warren Hall sites would not be cumulatively considerable. As described in Threshold 2.4, maximum PM10 and PM2.5 emissions would be less than SCAQMD thresholds and would occur in the fall of 2018, and would not be concurrent with the demolition and grading at the Margan Apartments, which would occur in 2017. Further, the maximum on-site construction PM10 and PM2.5 emissions from the Margan Apartments site would not exceed one pound per day (UCLA 2016). Therefore, the PM10 and PM2.5 local impacts from the UNEX and Warren Hall sites would not be cumulatively considerable.

With regard to long-term exposure of sensitive receptors to substantial TAC concentrations, there are no cumulative significance thresholds. The direct impact carcinogenic and non-carcinogenic significance thresholds are set at sufficiently low levels to avoid significant cumulative impacts (SCAQMD 2003). Therefore, there would not be a cumulatively significant impact with implementation of the proposed housing projects.

As described in Threshold 2.5, neither the proposed housing projects nor land uses in the vicinity of the proposed housing sites would generate objectionable odors, as defined by the SCAQMD. Odors typical of residential uses would be generated by the proposed housing projects and adjacent residences. However, these odors would not be considered objectionable by a substantial number of people, nor would they persist for extended periods of time. Therefore, the proposed projects would not have a considerable contribution to a significant cumulative impact and this impact would be less than significant.

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4.3 BIOLOGICAL RESOURCES

This section describes the existing biological resources and evaluates the potential for impacts to biological resources, specifically tree removal, associated with implementation of the proposed housing projects. Data used to prepare this section came primarily from the analysis of campus-wide biological resources presented in Section 4.3, Biological Resources, in the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR). In addition, a Psomas Biologist updated vegetation mapping of the area adjacent to and north of the Lot 15 site; a Psomas Certified Arborist performed a tree survey for the project sites (the tree survey data is included in Appendix D); and Psomas Biologists performed focused surveys for the coastal California gnatcatcher on the "4-acre parcel"[1] near the Lot 15 site in spring 2017 (Psomas 2017b; Appendix D).

Relevant elements of the proposed Project related to biological resources include removal of existing mature and protected trees and ornamental vegetation located within the construction impact areas for each site, and construction activities in the vicinity of, but not within, the "4-acre parcel" in the Northwest zone. The proposed housing projects would also involve replacement of trees that would be impacted.

No Notice of Preparation comments were received addressing the analysis of biological resources.

4.3.1 REGULATORY FRAMEWORK

Section 4.3 of the March 2009 LRDP Amendment Final EIR provides a complete discussion of the regulatory framework for biological resources relevant to development on campus. The following discusses the applicable regulatory framework for biological resources relevant to the proposed housing projects.

Endangered and Threatened Species

Federal Endangered Species Act

The Federal Endangered Species Act of 1973 (FESA) protects plants and animals that the government has listed as "Endangered" or "Threatened". The FESA is implemented by enforcing Sections 7 and 9 of the Act. A federally listed species is protected from unauthorized "take" pursuant to Section 9 of the FESA. "Take", as the FESA defines it, means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or attempt to engage in any such conduct. All persons are presently prohibited from taking a federally listed species unless and until (1) the appropriate Section 10(a) permit has been issued by the U.S. Fish and Wildlife Service (USFWS) or (2) an Incidental Take Statement is obtained as a result of formal consultation between a federal agency and the USFWS pursuant to Section 7 of the FESA and the implementing regulations that pertain to it (*Code of Federal* Regulations [CFR], Title 50, Part 402). "Person" is defined in the FESA as an individual, corporation, partnership, trust, association, or any private entity; any officer, employee, agent, department or instrument of the federal government; any State, Municipality, or political subdivision of the state; or any other entity subject to the jurisdiction of the United States.

[1] The March 2009 LRDP Amendment Final EIR refers to an undeveloped "4-acre parcel" in the Northwest zone. This generally refers to the undeveloped area between Veteran Avenue and Parking Lot 11. The current assessment of biological resources includes this general area, as well as other landscaped areas in and around the Lot 15 site (approximately 14.7 acres).

California Endangered Species Act

Pursuant to the California Endangered Species Act (CESA) and Section 2081 of the *California Fish and Game Code,* an Incidental Take Permit from the California Department of Fish and Wildlife (CDFW) is required for projects that could result in the take of a State-listed Threatened or Endangered species. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include "harm" or "harass", as the federal act does. As a result, the threshold for a take under the CESA is higher than that under the FESA. A CDFW-authorized Incidental Take Permit under Section 2081(b) would be required where a project could result in the take of a State-listed Threatened or Endangered Species.

Nesting Birds and Raptors

Migratory Bird Treaty Act

Pursuant to the Migratory Bird Treaty Act (MBTA) of 1918, as amended in 1972, federal law prohibits the taking of migratory birds, their nests, or their eggs (*United States Code* [U.S.C.], Title 16, Section 703), except as allowed by permit (pursuant to 50 CFR 21). The statute states:

> Unless and except as permitted by regulations made. . . it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill . . . any migratory bird, any part, nest, or egg of any such bird . . . included in the terms of the [Migratory Bird] conventions . . .

California Department of Fish and Game Code (Unlawful Take or Destruction of Nests or Eggs)

Section 3503.5 of the *California Fish and Game Code* specifically protects birds of prey. The Code states:

> It is unlawful to take, possess, or destroy any birds in the orders *Falconiformes* or *Strigiformes* (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

Section 3513 of the *California Fish and Game Code* duplicates the federal protection of migratory birds (i.e., the MBTA). The Code states:

> It is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act.

Tree Protection

Implementation of the proposed housing projects would result in the removal of existing trees. The University of California is a constitutionally created unit of the State of California. As a State entity, UCLA is not subject to local zoning and planning ordinances, including the City of Los Angeles Native Tree Protection Ordinance (No. 177404)(LANTPO). However, UCLA has historically met or exceeded the City of Los Angeles tree replacement requirements. The City of Los Angeles Tree Ordinance generally defines "mature" trees as being healthy trees measuring 12 inches or greater in diameter at breast height (dbh) while "protected" trees are generally

defined as any of the following Southern California native tree species whose dbh is measured four inches or greater:

- Oak trees, including valley oak (*Quercus lobata*) and California live oak (*Quercus agrifolia*), and any other tree of the oak genus indigenous to California but excluding the scrub oak (*Quercus dumosa*).
- Southern California black walnut (*Juglans californica* var. *californica*).
- Western sycamore (*Platanus racemosa*).
- California bay (*Umbellularia californica*).

The UCLA LRDP requires the protection or replacement of any mature trees that could be affected by projects, as described below under Project Impacts.

4.3.2 METHODS

Literature Review

The California Native Plant Society's (CNPS') Inventory of Rare and Endangered Plants (CNPS 2017) and CDFW's California Natural Diversity Database (CNDDB) (CDFW 2017) were reviewed to identify special status plants, wildlife, and habitats known to occur in the vicinity of the project sites. Database searches included the U.S. Geological Survey (USGS) Beverly Hills 7.5-minute quadrangle.

Vegetation Mapping

Vegetation surrounding the Lot 15 site was mapped by Psomas Senior Biologist Amber Heredia. Vegetation naming generally follows the California Department of Fish and Game's Hierarchical List of Natural Communities (2010). The survey area for the vegetation mapping included the Lot 15 site and associated potential construction impact areas, and the undeveloped area in the Northwest zone subject to the provisions of the agreement entered into by and between the Urban Wildlands Group, Inc. and The Regents of the University of California; in the agreement the undeveloped area is referred to as the "Hillside Area".[2]

Ornamental landscaping at the Warren Hall, UNEX, Bradley and Drake Stadium sites was identified during the tree surveys, discussed below.

Coastal California Gnatcatcher Surveys

Although the Lot 15 site is not within the "4-acre parcel" referenced in the March 2009 LRDP Amendment Final EIR, due to its proximity, focused surveys for the coastal California gnatcatcher were conducted, pursuant to Final EIR Mitigation Measure (MM) 4.3-2(c). The USFWS' survey protocol for the coastal California gnatcatcher recommends six visits to all potentially occupied habitat areas for surveys conducted entirely within the breeding season, which extends from March 15 to June 30 (USFWS 1997a, 1997b). All visits must take place at least one week apart during the morning hours. Following the USFWS protocol for the species, Psomas Senior Biologist Brian Daniels (USFWS Permit No. TE821401-5) conducted the first four surveys on April 20 and 27 and May 4 and 11, 2017; Psomas Senior Biologist Stacie Tennant (USFWS Permit No. TE834489-5) conducted the last two surveys on May 18 and 25, 2017. The survey area for

[2] This agreement addresses clarification of mitigation requirements for tree replacement (as now presented in LRDP EIR MM 4.3-1[c]), and requires environmental review of the impacts on any sensitive natural community (pursuant to Appendix G of the CEQA Guidelines) of any significant changes in then-existing land use on the Hillside Area.

the coastal California gnatcatcher surveys included any potentially suitable coastal sage scrub habitat in the vicinity of the project impact area and the entire open space area in the Northwest zone, including the entire "4-acre parcel".

Tree Surveys

Psomas Certified Arborist Trevor Bristle conducted tree surveys for each site on May 3, 11, and 14, 2017. The tree surveys were conducted to map the location and type (i.e., genus and species) of each tree and to assess the trunk diameter, overall height, canopy width, aesthetic value, and health rating of existing mature trees. Included were both native and non-native species with a diameter at breast height (dbh) of 12 inches or greater, and "protected" tree species with a dbh of 4 inches or greater. The tree survey data is included in Appendix D.

4.3.3 ENVIRONMENTAL SETTING

As discussed in Section 4.3, Biological Resources, of the March 2009 LRDP Amendment Final EIR, the UCLA campus consists of developed areas with landscaped courtyards, gardens, lawns, and planted hillsides. The majority of on-campus vegetation consists of non-native ornamental species. There are two limited areas of natural open space on the UCLA campus: (1) the undeveloped, "4-acre" parcel between Veteran Avenue and Parking Lot 11 in the Northwest zone and (2) the aboveground portion of Stone Canyon Creek in the northeastern portion of the campus (Core zone) (UCLA 2009). The "4-acre parcel" is north of the Lot 15 site; therefore, this area is further discussed in this section, but is only applicable to the Lot 15 site. The aboveground portion of Stone Canyon Creek is not within or near any of the project sites; no further discussion of this area/resources is warranted or provided in this section.

The baseline condition for purposes of analysis in this section is the existing condition, as described below.

Special Status Biological Resources

Special Status Vegetation Types

As described in Section 4.3, Biological Resources, of the March 2009 LRDP Amendment Final EIR, although some native plant species are interspersed among non-native ornamental species on campus (e.g., coast live oak [*Quercus agrifolia*]), the presence of scattered native plant species does not indicate a special status vegetation type. There are no special status vegetation types located in developed portions of the campus, including the proposed housing sites.

As further described under the discussion of "Vegetation" below, the area surveyed in the Northwest zone to support preparation of this Draft SEIR consists of California sagebrush scrub–grassland ecotones, including native grassland, in the northern portion of the mapped area and coast live oak and ornamental trees with non-native grassland in the southern portion. **Coastal sage scrub, native grasslands, and coast live oak woodlands are often considered special status by local jurisdictions. However, it should be noted that** ~~T~~the limited extent of native habitat in this parcel and lack of contiguous off-site habitat reduces the overall habitat quality.

Jurisdictional Resources

As described in Section 4.3, Biological Resources, of the March 2009 LRDP Amendment Final EIR, drainages, which may include "waters of the U.S.", are protected under Section 404 of the Federal Clean Water Act (CWA) (discussed below in Section 4.3.2, Regulatory Framework of the Final EIR) and are under the jurisdiction of the U.S. Army Corps of Engineers (USACE) (UCLA

2009). "Waters of the U.S." include navigable coastal and inland waters, lakes, rivers, streams and their tributaries; interstate waters and their tributaries; wetlands adjacent to such waters; intermittent streams; and other waters that could affect interstate commerce. In addition, the CDFW, under Section 1600 of the *California Fish and Game Code*, regulates work that will (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

In 2012, a jurisdictional determination for the area generally covered by the current vegetation mapping in the Northwest zone (shown on Figure 4.3-1) was conducted. There was only one location in the survey area that demonstrated possible characteristics of a jurisdictional resource. An approximate 40- to 50-foot-long artificially created erosional feature was observed in an upland area at the base of the hillside area west of Parking Lot 11. Based on these observed conditions, it was determined that (1) the erosional feature is not considered "waters of the U.S.". and this area does not contain resources under the jurisdiction of the USACE pursuant to Clean Water Act Section 404(b)(1) and (2) the erosional feature is not an ephemeral stream, wash, or watercourse; it does not convey natural flows and is dominated by upland plant species; and is not considered "waters of the State" pursuant to Section 1600 et seq. of the *California Fish and Game Code*.

Special Status Plant and Wildlife Species

As discussed in the March 2009 LRDP Amendment Final EIR, no special status plant or wildlife species have the potential to occur in developed or ornamental areas on the UCLA campus, and at the project sites, due to lack of suitable habitat (UCLA 2009). An updated database search was conducted during preparation of this Draft SEIR to ensure no newly listed species, or species newly discovered to occur in the vicinity, should be considered.

In 2009 and 2012, special status plant surveys were conducted for the area generally covered by the current vegetation mapping (shown on Figure 4.3-1). No special status plant species were observed during the surveys (BonTerra Consulting 2009a, 2012). Focused surveys were not required for the currently proposed housing projects, including the Lot 15 site; no special status plant species were expected to occur in the construction impact areas due to lack of suitable habitat.

The area covered by the current vegetation mapping provides a limited amount of marginally suitable coastal sage scrub habitat for the coastal California gnatcatcher. No coastal California gnatcatchers were observed during focused protocol surveys conducted in spring 2017 (Psomas 2017b, Appendix D). This conclusion is consistent with results of a previous protocol survey conducted in 2009 (BonTerra Consulting 2009b).

Common and special status raptor species have potential to nest in the mature trees throughout campus. Raptors with potential to nest in trees or on building crevices/ledges on the campus include red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), Cooper's hawk (*Accipiter cooperii*), American kestrel (*Falco sparverius*), great-horned owl (*Bubo virginianus*), barn owl (*Tyto alba*), and western screech owl (*Megascops kennicottii*). Nests of these species are protected by *California Fish and Game Code.*

Vegetation Types

Following is a discussion of the existing vegetation at each of the project sites.

Lot 15 Site

Vegetation north of the Lot 15 site is a mix of native vegetation and ornamental plantings (Figure 4.3-1). Vegetation types include California sagebrush scrub, California sagebrush scrub–native grassland ecotone, California sagebrush–non-native grassland ecotone, non-native grassland, coast live oak, western sycamore, coast live oak/western sycamore, ornamental plantings, coast live oak/ornamental plantings, and developed.

California sagebrush scrub areas are dominated by California sagebrush (*Artemisia californica*) and laurel sumac (*Malosma laurina*). Areas with greater than 50 percent cover of grassland were mapped as California sagebrush scrub–grassland ecotones. The northwest portion of the mapped area has a high percent cover of native grass (*Stipa* sp.), while the remainder of this area is comprised of non-native grasses such as brome grasses (*Bromus* spp.) and wild oat (*Avena* sp). A variety of other coastal sage scrub species also occur scattered throughout the California sagebrush scrub vegetation types in lower densities including black sage (*Salvia mellifera*), white sage (*Salvia apiana*), California brittlebush (*Encelia californica*), giant wild-rye (*Leymus condensatus*), bush monkeyflower (*Mimulus aurantiacus*), coastal prickly-pear (*Opuntia littoralis*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*).

Native trees mapped in the mapped area included coast live oak and western sycamore (*Platenus racemose*), and groupings of these trees mix with ornamental trees such as gum trees (*Eucalyptus* sp.). Western sycamore were mapped as coast live oak because they are a component of a coast live oak woodland. Typically, the understory beneath these trees is non-native grasses such as brome grasses, wild oat, or canary grass (*Phalaris* sp.). Other native species that occur in the understory include toyon (*Heteromeles arbutifolia*) and chaparral nightshade (*Solanum xanti*). Trees within and adjacent to the Lot 15 site are identified on Figure 4.3-2.

A small patch of mulefat scrub comprised of mule fat (*Baccharis salicifolia*) is located east of Lot 10 (i.e., the Krieger Child Care Center parking lot), adjacent to a small tank or pipe (refer to Figure 4.3-1). Although mule fat most often occurs in association with riparian habitats, it can also occur in upland areas such as this. The mulefat scrub is not associated with potentially jurisdictional features.

Although there are native trees and vegetation, as noted above, the majority of the area on and near the Lot 15 site is comprised of ornamental species and developed areas, including residence halls, parking lots, storage and staging areas, and roadways. Ornamental trees on and near the site include a wide range of species but most commonly include gum trees, pine trees (*Pinus* sp.), ficus trees (*Ficus* sp.), and Brazilian pepper trees (*Schinus terebinthifolius*). The understory of these areas is typically lacking, but in some areas includes non-native grasses. Ornamental plantings sometimes include a few native tree individuals. Ornamental trees are also mapped on Figure 4.3-2. Other (non-tree) ornamental plantings include species such as cape leadwort (*Plumbago auriculata*), oleander (*Nerium oleander*), and day lily (*Hemerocallis lilioasphodelus*). Lot 15, where the proposed Project would occur, is located entirely within developed and ornamental areas (Figure 4.3-1).

A total of 115 trees were mapped in the tree survey area and are shown in Figure 4.3-2. Of these, 62 trees meet the definition of a mature and/or protected tree and are within the Lot 15 disturbance area. Two native tree species, coast live oak and western sycamore, occur within the tree survey area. The remainder of trees are ornamental (i.e., horticultural) species.

Warren Hall Site

Existing vegetation on and around the Warren Hall site consists of trees, shrubs, and ground covers. Plant species include, but are not limited to, western sycamore, small-fruit fig (*Ficus microcarpa*), Canary island pine (*Pinus caneriensis*), Aleppo pine (*Pinus halepensis*), English ivy (*Hedera helix*), lantana (*Lantana camara*), cycads (*Cycadophyta* sp.), American century plant (*Agave americana*), and turf grass (family *Poaceae*).

A total of 32 trees were mapped in the tree survey area and are shown in Figure 4.3-3. Of these, 28 trees meet the definition of a mature and/or protected tree and are within the Warren Hall site disturbance area. One native tree species, western sycamore, occurs within the tree survey area. The remainder of trees are ornamental (i.e., horticultural) species.

UNEX Site

Existing vegetation on and around the UNEX site consists of ornamental trees and shrubs. Plant species include, but are not limited to, Aleppo pine, blue gum (*Eucalyptus globulus*), small-fruit fig, African coral tree (*Erythrina caffra*), English ivy, oleander, lantana, and bougainvillea (*Bougainvillea glabra*).

A total of 34 trees were mapped in the tree survey area and are shown in Figure 4.3-4; each of these meet the definition of a mature tree and are within the UNEX site disturbance area. All tree species identified are ornamental (i.e., horticultural) species.

Bradley Site

Existing vegetation on and around the Bradley site consists primarily of turf grass, as well as trees and ornamental shrubs. Plant species include, but are not limited to, western sycamore, Canary island pine, paper bark tree (*Meleleuca quinquenervia*), lantana, bougainvillea, and a non-native rose (*Rosa* sp.) garden.

A total of 27 trees were mapped in the tree survey area and are shown in Figure 4.3-5. Of these, 26 trees meet the definition of a mature and/or protected tree and are within the Bradley site disturbance area. One native tree species, western sycamore, occurs within the tree survey area. The remainder of trees are ornamental (i.e., horticultural) species.

Drake Stadium Site

Existing vegetation on and around the Drake site consists of trees and ornamental shrubs. Plant species include, but are not limited to, western sycamore, Aleppo pine, unidentified pine tree, blue gum, weeping bottlebrush (*Callistemon viminalis*), English ivy, cypress (*Taxodium distichum*), and periwinkle (*Vinca* sp.).

A total of 94 trees were mapped in the tree survey area and are shown in Figure 4.3-6. Of these, 52 trees meet the definition of a mature and/or protected tree and are within the Drake Stadium site disturbance area. One native tree species, western sycamore, occurs within the tree survey area. The remainder of trees are ornamental (i.e., horticultural) species.

Wildlife

Developed and ornamental plantings located throughout the project sites generally provide low quality habitat for urban-tolerant wildlife. California sagebrush scrub vegetation types and native trees in the survey area north of the Lot 15 site provide moderate quality habitat for native species.

Common amphibian and reptile species observed or expected to occur at the project sites include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), and gopher snake (*Pituophis catenifer*).

Bird species ~~observed in the survey area north of the Lot 15 site and~~ expected to occur at all ~~the other four~~ five project sites include mourning dove (*Zenaida macroura*), rock pigeon (*Columba livia*), Anna's hummingbird (*Calypte anna*), ~~Allen's hummingbird (*Selasphorus sasin*), red-shouldered hawk (*Buteo lineatus*),~~ black phoebe (*Sayornis nigricans*), ~~California scrub-jay (*Aphelocoma californica*),~~ American crow (*Corvus brachyrhynchos*), ~~oak titmouse (*Baeolophus inornatus*),~~ bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), American robin (*Turdus migratorius*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), orange-crowned warbler (*Oreothypis celata*), ~~spotted towhee (*Pipilo maculatus*),~~ California towhee (*Melozone crissalis*), and song sparrow (*Melospiza melodia*). Additional bird species observed in the survey area north of the Lot 15 site, include Allen's hummingbird (*Selasphorus sasin*), red-shouldered hawk (*Buteo lineatus*), California scrub-jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), and spotted towhee (*Pipilo maculatus*).

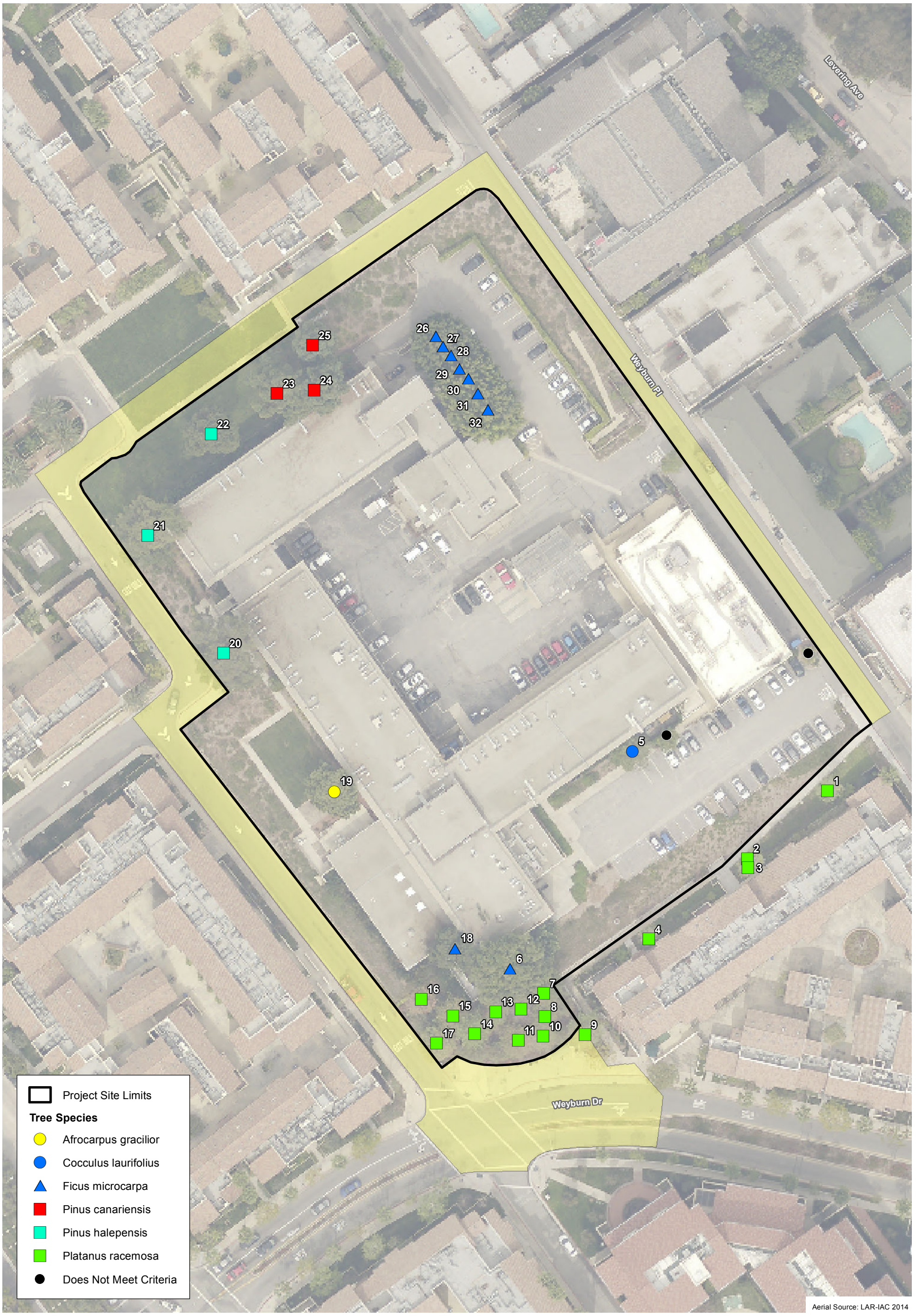
At the Warren Hall and UNEX sites, which are primarily developed, only urban-tolerant wildlife species would be expected to occur such as northern raccoon (*Procyon lotor)* and Virginia opossum (*Didelphia virginiana*). Additional m~~M~~ammal species ~~or sign of their presence~~ observed or expected to occur at the Lot 15 site, north of the Lot 15 site~~, and expected to occur at the other four project sites,~~ and at the Bradley and Drake Stadium sites include desert cottontail (*Sylvilagus audubonii*), ~~and~~ California ground squirrel (*Otospermophilus beecheyi*), and coyote (*Canis latrans*). North of the Lot 15 site, woodrat (*Neotoma* sp.) could also occur. Additionally, bat species that could roost in woodland or ornamental vegetation include Yuma myotis (*Myotis yumanensis*), Mexican free-tail (*Taderida brasiliensis*), and hoary bat (*Lasiurus cinereus*).

4.3.4 PROJECT IMPACTS AND MITIGATION

Thresholds of Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project will normally have a significant adverse environmental impact on biological resources if it will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Conflict with any local policies or ordinances protecting biological resources.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.



Warren Hall Site – Tree Impact Map

Figure 4.3-3

UCLA LRDP Amendment (2017) and Student Housing Projects

N W E S

60 30 0 60 Feet

PSOMAS

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UNEX Site – Tree Impact Map

Figure 4.3-4

UCLA LRDP Amendment (2017) and Student Housing Projects

N W E S

50 25 0 50 Feet

PSOMAS

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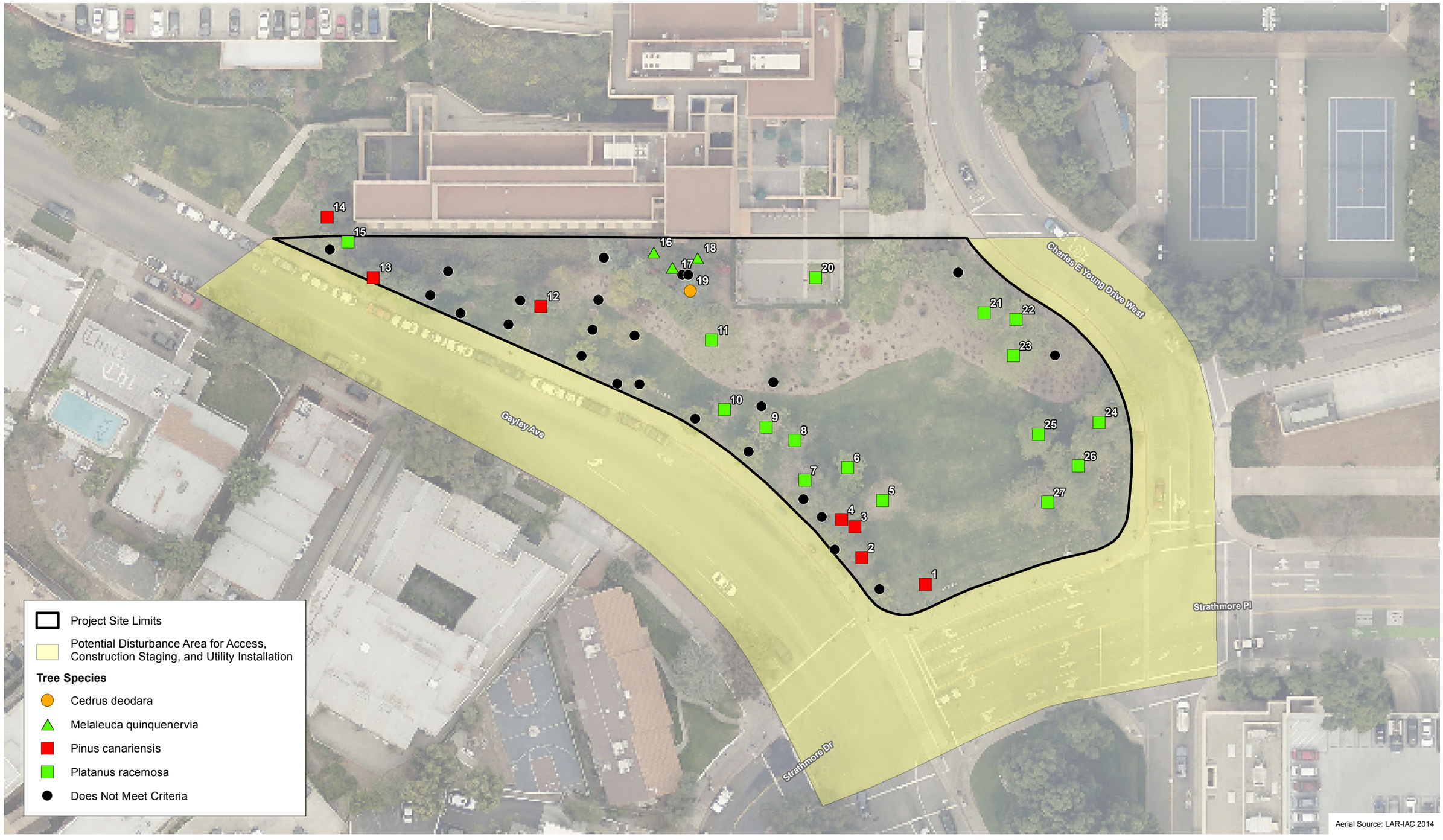

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Bradley Site – Tree Impact Map

Figure 4.3-5

UCLA LRDP Amendment (2017) and Student Housing Projects

N W E S

50 25 0 50 Feet

PSOMAS

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W Sunset Blvd

Charles E Young Drive North

De Neve Dr

Charles E Young Drive West

Project Site Limits

Potential Disturbance Area for Access, Construction Staging, and Utility Installation

Tree Species

- Eucalyptus globulus
- Heteromeles arbutifolia
- Pinus canariensis
- Pinus halepensis
- Pinus pinea
- Platanus racemosa
- Schinus terebinthifolius
- Does Not Meet Criteria

Aerial Source: LAR-IAC 2014

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Drake Stadium Site – Tree Impact Map

Figure 4.3-6

UCLA LRDP Amendment (2017) and Student Housing Projects

N W E S

75 37.5 0 75 Feet

PSOMAS

(Rev: 07/05/2017 MMD) R:\Projects\UCL\J0028.08\Graphics\EIR\ex_tree_locations_Drake.pdf

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or other applicable habitat conservation plan.

Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 LRDP Amendment Final EIR

The following campus programs, practices, and procedures (PPs) and mitigation measures (MMs) were adopted as part of the March 2009 LRDP Amendment Final EIR, and are incorporated as part of the proposed Project and assumed in the analysis presented in this section.

PP 4.3-1(a) *Mature trees to be retained and protected in place during construction, shall be fenced at the drip-line, and maintained by the contractor in accordance with landscape specifications contained in the construction contract.*

PP 4.3-1(b) *Trees shall be examined by an arborist and trimmed, if appropriate, prior to the start of construction.*

PP 4.3-1(c) *Construction contract specifications shall include the provision for temporary irrigation/watering and feeding of these trees during construction, as recommended by the designated arborist.*

PP 4.3-1(d) *Construction contract specifications shall require that no building material, parked equipment, or vehicles shall be stored within the fence line of any tree.*

PP 4.3-1(e) *Examination of these trees by an arborist shall be performed monthly during construction to ensure that they are being adequately maintained.*

MM 4.3-1(a) *Prior to the onset of construction activities that occur between March and mid-August (February 1 through June 30 for raptors), surveys for nesting special status avian species and raptors shall be conducted on the affected portion of the campus following USFWS and/or CDFW guidelines. If no active avian nests are identified on or within 250 feet of the construction site, no further mitigation is necessary*.

MM 4.3-1(b) *If active nests for avian species of concern or raptor nests are found within the construction footprint or within a 250-foot buffer zone around the construction site, exterior construction activities shall be delayed within the construction footprint and buffer zone until the young have fledged or appropriate mitigation measures responding to the specific situation have been developed and implemented in consultation with CDFW.*

MM 4.3-1(c) *In conjunction with CEQA documentation required for each project proposal under the 2002 LRDP, as amended, that would result in the removal of one or more mature trees, the project will include a tree replacement plan with a 1:1 tree replacement ratio at the development site where feasible and/or elsewhere within the campus boundaries where feasible. If it is not feasible to plant replacement trees at a 1:1 ratio within the campus boundaries, the tree replacement plan will include the planting of native shrubs in ecologically appropriate areas within the campus boundaries that would provide nesting, foraging or roosting habitat for birds so that the replacement number of trees and shrubs will result in a 1:1 replacement ratio.*

MM 4.3-4 *UCLA shall replace protected trees removed for construction of projects under the 2002 LRDP, as amended, with protected trees of the same species at a 2:1 ratio as presented in the City of Los Angeles Protected Tree Ordinance (Ordinance Number 177404). Protected trees are defined as coast live oak, valley oak, western sycamore, Southern California black walnut, and California bay laurel.*

It should be noted that even though the Lot 15 site is not within the "4-acre parcel" identified in the Northwest zone, due to its proximity to this area, focused surveys for the coastal California gnatcatcher were conducted, pursuant to MM 4.3-2(c). Because coastal California gnatcatcher was not observed during focused surveys, there would be no impact and no permits or authorizations identified in MM 4.3-2(e) would be required.

Impact Analysis

For impact analysis purposes, a "substantial adverse effect" is defined as the loss or harm of a magnitude which, based on current scientific data and knowledge, would (1) substantially diminish population numbers of a species or distribution of a habitat type within the region or (2) eliminate the functions and values of a biological resource in the region. The significance finding and associated mitigation required assumes that the PPs and MMs described above would be incorporated into the proposed housing projects.

The following analysis addresses "direct" and "indirect" impacts, as applicable. Direct impacts are those that involve the initial loss of habitat due to vegetation clearing and construction-related activities. Indirect impacts would be those related to impacts on the adjacent remaining habitat due to construction activities (e.g., noise, dust) or operation of the proposed Project (e.g., human activity).

Threshold 3.1	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The project sites and their associated construction impact areas (refer to Figures 3-18 through 3-21 in Section 3.0, Project Description) are either developed or consist of ornamental vegetation typical of the developed portions of the campus. There are no naturalized areas, stream channels, or otherwise sensitive hydrologic or biological resources within the construction impact areas identified for the project sites. Because of the developed nature of the project sites, wildlife expected to occur consists of species that are tolerant of a high amount of human activity and that commonly occur in urban areas and across the UCLA campus, as previously described.

However, like the campus as a whole, trees and other vegetation on the project sites provide foraging, roosting, and nesting opportunities for bird species, including raptors.

Construction and Operation

Nesting Birds/Raptors

The analysis of Impact 4.3-1 in Section 4.3, Biological Resources, of the March 2009 LRDP Amendment Final EIR concluded that, with implementation of PP 4.3-1(a) through PP 4.3-1(e) and MM 4.3-1(a) through MM 4.3-1(c), implementation of the remaining development allocation on campus would result in less than significant impacts on nesting birds, including nesting raptors, if trees are removed during the breeding season.

As identified in the March 2009 LRDP Amendment Final EIR, development on campus would require the removal and/or disturbance of trees and shrubs located within project-specific impact areas. Refer to the discussion provided below under Threshold 3.4 regarding the loss of trees resulting from implementation of the proposed housing projects. Common species of birds and raptors that occur in the project vicinity may nest in the project area in these trees and shrubs. Nesting birds and raptors are protected by the Migratory Bird Treaty Act (MBTA); raptors are also protected by the *California Fish and Game Code.* As concluded in the March 2009 LRDP Amendment Final EIR, the removal or pruning of trees and shrubs to allow for construction of the proposed housing projects could directly impact nesting birds, including nesting raptors. In addition, the dust, noise, and/or increased human presence associated with construction activities could indirectly impact nesting birds, including nesting raptors.

The loss of an occupied nest as a result of construction or demolition activities would constitute a substantial adverse effect (such as "take" or "destruction" under Section 3513 of the *California Fish and Game Code*) and, in the case of raptors, would constitute the "take" or "destruction" of the nest or egg (under Section 3503.5 of the *California Fish and Game Code*). Therefore, the proposed housing projects incorporate March 2009 LRDP Amendment Final EIR MM 4.3-1(a), which requires a pre-construction survey during the breeding season to determine whether birds or raptor species are nesting within a construction site, and Final EIR MM 4.3-1(b), which prohibits construction within a specific buffer zone if occupied nests are found; incorporation of these MMs would ensure that potential impacts would be less than significant.

As the construction impact area for the proposed housing projects is already developed, the proposed Project would impact a limited amount of habitat for nesting birds and raptors. Although ornamental vegetation would be removed to construct the proposed housing projects, new landscaping, including trees, would be installed at each site. Furthermore, incorporation of Final EIR MM 4.3-1(c), which requires replacement of mature trees that would be removed and ensures that impacts on mature trees and the habitat they provide for birds, including raptors, would be less than significant.

Because the proposed housing projects incorporate mitigation measures from the March 2009 LRDP Amendment Final EIR, impacts on nesting birds and raptors would be less than significant, consistent with the findings of the Final EIR.

Special Status Plant and Wildlife Species

The analysis of Impact 4.3-2 in Section 4.3, Biological Resources, of the March 2009 LRDP Amendment Final EIR concluded that, with implementation of MM 4.3-2(a) through MM 4.3-2(e), implementation of development on campus would result in less than significant impacts on special status plant and wildlife species.

As previously discussed, only two limited areas of natural open space occur on the UCLA campus (the parcel between Veteran Avenue and Parking Lot 11 in the Northwest zone, and the aboveground portion of Stone Canyon Creek in the northeastern portion of the campus). With the exception of the Lot 15 site, none of the project sites are in or near these areas, and would have no direct or indirect impacts.

With regard to the parcel north of the Lot 15 site, as previously discussed, no special status plant species are expected to occur in the survey area. Focused surveys for special status plants were conducted in 2009 and 2012; no special status plant species were observed in the survey area, including the entire "4-acre parcel" (BonTerra Consulting 2009a, 2012). Therefore, there would be no impact on special status plant species with implementation of the proposed housing project at the Lot 15 site.

Based on the type of vegetation present, the only Threatened or Endangered wildlife species with potential to occur in the vicinity of the Lot 15 site is the coastal California gnatcatcher. The California sagebrush scrub, California sagebrush scrub–native grassland ecotone, and California sagebrush scrub–non-native grassland ecotone vegetation types provide marginally suitable habitat for the coastal California gnatcatcher; the isolation of the habitat for larger off-site areas of habitat further limits the potential for the coastal California gnatcatcher to occur. No coastal California gnatcatchers were observed during focused protocol surveys conducted in spring 2017 (Psomas 2017b; Appendix D). This was consistent with results of a previous protocol survey conducted in 2009 (BonTerra Consulting 2009b). Therefore, there would be no direct or indirect impacts on this species, as it does not occur.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

There would be no direct or indirect impact on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. There would be a less than significant impact on potential nesting birds and raptors.

Threshold 3.2	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
Threshold 3.3	Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The analysis of Impact 4.3-5 in Section 4.3, Biological Resources, of the March 2009 LRDP Amendment Final EIR concluded there would be less than significant impacts to riparian or other sensitive natural communities in the area along Stone Canyon Creek or to coastal sage scrub within the "4-acre parcel" with implementation of Final EIR MM 4.3-2(a) through MM 4.3-2(c), MM 4.3-5(a), and MM 4.3-5(b).

Riparian Habitat and Wetlands

As previously identified, none of the project sites are in the vicinity of the aboveground portion of the Stone Canyon Creek in the northeast portion of the campus. Therefore, there is no potential for direct or indirect impacts to this sensitive resource. There are no other known or potential areas containing riparian habitat or wetlands on campus, including the project sites, and no impacts would result, consistent with the conclusions of the March 2009 LRDP Amendment Final EIR.

Natural Communities

Direct Impacts

With the exception of the Lot 15 site, the project sites do not include and are not located in proximity to natural communities. ~~None o~~ Of the mapped communities, the only one that is considered~~are considered~~ special status by CDFW (CDFG 2010) is California sagebrush scrub–native grassland. However, local jurisdictions may consider California sagebrush scrub, California sagebrush scrub–native grassland ecotone, California sagebrush scrub–non-native grassland ecotone, and coast live oak to be locally rare.

As described above and shown on Figure 4.3-1, the proposed housing project at the Lot 15 site does not involve any direct impacts to the natural communities in the Northwest zone, north of the Lot 15 site. Additionally, as discussed under Threshold 3.4, below, replacement of mature and protected trees would ensure that any native trees removed would be replaced. No additional mitigation is required, consistent with the findings of the March 2009 LRDP Amendment Final EIR.

Indirect Impacts

The proposed housing project at the Lot 15 site would introduce additional residential uses west of De Neve Drive between the existing Hitch Residential Suites and the Saxon Residential Suites. This would include additional human activity, noise, night lighting, and glare. As shown on Figure 4.3-1, the vegetation adjacent to the potential disturbance areas primarily consists of ornamental and non-native grassland habitats, which are of limited habitat value to native wildlife. Urban-tolerant wildlife, which would use the ornamental habitat areas, are tolerant to the types of indirect effects that are already present in these areas even though these effects would be incrementally increased.

While there are sensitive natural communities north of the Lot 15 site (e.g., California sagebrush scrub vegetation types and native trees), as discussed above, these communities are not expected to support sensitive wildlife species. The federally Threatened coastal California gnatcatcher was determined to be absent during protocol focused surveys; therefore, there would be no indirect impact on this species.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

There would be no impact to riparian habitat, federally protected wetlands, or other sensitive natural communities.

Threshold 3.4	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The analysis of Impact 4.3-4 in Section 4.3, Biological Resources, of the 2009 LRDP Amendment Final EIR concluded that incorporation of PPs 4.3-1(a) through 4.3-1(e), MM 4.3-1(c), and MM 4.3-4 into future development project would result in a less than significant impact from the removal of mature and protected trees.

As discussed above and noted in the March 2009 LRDP Amendment Final EIR, the University of California is not subject to local zoning and planning ordinances, including the LANTPO (No. 177404). UCLA mitigates the loss of trees consistent with the March 2009 LRDP Amendment Final EIR MMs. The LANTPO, last amended in 2006, requires the replacement of "protected species", defined as all native oak tree species (except scrub oaks), western sycamore, Southern California black walnut, and California bay laurel (*Laurus nobilis*). Tree replacement mitigation is determined on a case-by-case basis by the Urban Forestry Division of the Bureau of Street Services (City of Los Angeles), typically at a ratio of 2:1. Although not required, UCLA has historically met or exceeded the City of Los Angeles tree replacement requirements.

Figures 4.3-2 through 4.3-6 depict the location and types of trees surveyed at each project site, the project site limits, and the potential additional disturbance area during construction for installation of utilities, construction staging, and other activities. Collectively, these areas are referred to as the "construction impact limits". It is assumed for purposes of analysis in this Draft SEIR that any trees within the construction impact limits may be removed. Table 4.3-1 provides a summary of the mature and/or protected trees within the construction impact limits, both for each site individually and collectively. The proposed housing projects would potentially result in the removal of up to approximately 200 trees, including 170 non-native mature trees and 30 protected trees, 14 of which also qualify as mature trees. The remaining trees to be removed are less than 12 inches dbh (i.e., not considered mature trees) and do not include tree species subject to the LANTPO, but are mapped on Figures 4.3-2 through 4.3-6.

TABLE 4.3-1
SUMMARY OF TYPE, QUANTITY, AND SIZE OF TREES WITHIN THE CONSTRUCTION IMPACT LIMITS

Species		Tree Size (dbh)[a]					Total	
Common Name	Scientific Name	4″–12″ Protected Trees Only	12″–20″	20″–30″	30″–40″	>40″	Mature Trees	Protected Trees
Lot 15 Site								
lemon-scented gum	*Corymbia citriodora*	–	4	–	–	–	*4*	–
African coral tree	*Erythrina caffra*	–	–	–	1	–	*1*	–
sugar gum	*Eucalyptus cladocalyx*	–	–	1	–	–	*1*	–
blue gum	*Eucalytptus globulus*	–	3	3	1	1	*8*	–
silver dollar gum	*Eucalyptus polyanthemos*	–	2	3	–	–	*5*	–
Chinese banyon	*Ficus microcarpa*	–	–	–	–	1	*1*	–
rusty fig	*Ficus rubiginosa*	–	1	1	–	–	*2*	–

TABLE 4.3-1
SUMMARY OF TYPE, QUANTITY, AND SIZE OF TREES WITHIN THE CONSTRUCTION IMPACT LIMITS

Species		Tree Size (dbh)[a]					Total	
Common Name	**Scientific Name**	**4″–12″ Protected Trees Only**	**12″–20″**	**20″–30″**	**30″–40″**	**>40″**	**Mature Trees**	**Protected Trees**
toyon	*Heteromeles arbutifolia*	–	1	–	–	–	*1*	–
Canary Island pine	*Pinus canariensis*	–	12	–	–	–	*12*	–
Allepo pine	*Pinus halepensis*	–	12	2	4	–	*18*	–
stone pine	*Pinus pinea*	–	–	1	–	–	*1*	–
western sycamore	*Platanus racemosa*	–	1	–	–	–	*1*	*1*
coast live oak	*Quercus agrifolia*	2	–	–	–	–	–	*2*
Chinese elm	*Ulmus parvifolia*	–	2	1	–	–	*3*	–
						Lot 15 Site Subtotal	**58**	**3**
						Replacement Ratio*	**1:1**	**1:2**
						Lot 15 Site Replacement Subtotal	**57**	**6**
Warren Hall Site								
fern pine	*Afrocarpus gracilior*	–	–	1	–	–	*1*	–
laurel-leaf snailseed	*Cocculus laurifolius*	–	1	–	–	–	*1*	–
Chinese banyon	*Ficus microcarpa*	–	1	5	3	–	*9*	–
Canary Island pine	*Pinus canariensis*	–	–	1	2	–	*3*	–
Allepo pine	*Pinus halepensis*	–	–	–	3	–	*3*	–
western sycamore	*Platanus racemosa*	8	3	–	–	–	*3*	*11*
						Warren Hall Site Subtotal	**20**	**11**
						Replacement Ratio*	**1:1**	**1:2**
						Warren Hall Site Replacement Subtotal	**17**	**22**
UNEX Site								
fern pine	*Afrocarpus gracilior*	–	1	–	–	–	*1*	–
African coral tree	*Erythrina caffra*	–	–	2	1	–	*3*	–
common coral tree	*Erythrina lysistemon*	–	–	1	–	–	*1*	–
sugar gum	*Eucalyptus cladocalyx*	–	–	1	–	–	*1*	–
blue gum	*Eucalytptus globulus*	–	–	5	1	–	*6*	–
Chinese banyon	*Ficus microcarpa*	–	–	3	–	–	*3*	–
rusty fig	*Ficus rubiginosa*	–	–	1	–	–	*1*	–
broad-leaf paperbark	*Melaleuca quinquenervia*	–	1	–	–	–	*1*	–
Allepo pine	*Pinus halepensis*	–	12	4	1	–	*17*	–
						UNEX Site Subtotal	**34**	**0**
						Replacement Ratio*	**1:1**	**1:2**
						UNEX Site Replacement Subtotal	**34**	**0**

TABLE 4.3-1
SUMMARY OF TYPE, QUANTITY, AND SIZE OF TREES WITHIN THE CONSTRUCTION IMPACT LIMITS

Species		Tree Size (dbh)[a]					Total	
Common Name	**Scientific Name**	**4″–12″ Protected Trees Only**	**12″–20″**	**20″–30″**	**30″–40″**	**>40″**	**Mature Trees**	**Protected Trees**
Bradley Site								
deodar cedar	*Cedris deodarus*	–	1	–	–	–	*1*	–
broad-leaf paperbark	*Melaleuca quinquenervia*	–	3	–	–	–	*3*	–
Canary Island pine	*Pinus canariensis*	–	6	–	–	–	*6*	–
western sycamore	*Platanus racemosa*	6	6	2	2	–	*10*	*16*
						Bradley Site Subtotal	**20**	**16**
						Replacement Ratio*	**1:1**	**1:2**
						Bradley Site Replacement Subtotal Total	**10**	**32**
Drake Stadium Site								
blue gum	*Eucalytptus globulus*	–	8	13	–	–	*21*	–
Canary Island pine	*Pinus canariensis*	–	1	2	–	–	*3*	–
Allepo pine	*Pinus halepensis*	–	2	6	2	–	*10*	–
stone pine	*Pinus pinea*	–	2	10	5	–	*17*	–
Brazilian pepper	*Schinus terebinthifolius*	–	1	–	–	–	*1*	–
						Drake Stadium Site Subtotal	**52**	**0**
						Replacement Ratio*	**1:1**	**1:2**
						Drake Stadium Site Replacement Subtotal	**52**	**0**
						Project Removal Total	***184***	***30***
						Project Replacement Total	***170***	***60***

dbh: diameter of trunk at breast height (approximately 4.5 feet above the ground surface), if tree is multi-trunked the diameter is cumulative.

* Native trees greater than 12 inches dbh are subject to both replacement ratios (for mature and protected trees), but the higher replacement ratio (2:1 replacement) is applied for determining the total number of trees required to be replaced.

The proposed Project includes MM 4.3-1(c), adopted as part of the March 2009 LRDP Amendment Final EIR, requiring that mature trees (greater than 12 inches dbh) be replaced at a 1:1 ratio. In addition, the proposed Project incorporates MM 4.3-4, which requires that protected tree species based on the LANTPO be replaced at a 2:1 ratio (please note that native trees greater than 12 inches dbh are subject to both mitigation measures, but the higher replacement ratio under MM 4.3-4 supersedes MM 4.3-1[c]). Pursuant to Final EIR MM 4.3-1(c), the 184 mature trees directly impacted would be replaced at a 1:1 ratio, except those trees whose replacement is superseded by the 2:1 ratio based on the LANTPO. There are a total of 14 trees that fall into this category. Pursuant to Final EIR MM 4.3-4, the 30 trees that are considered "protected" and are greater than 4 inches dbh would be replaced at a 2:1 ratio. In-kind mitigation is required by the LANTPO (i.e., replacement tree species shall be the same species as those impacted). Therefore, the proposed Project would replace an estimated 230 trees based on the applicable requirements, assuming all of the potentially affected trees within the construction impact limits

are removed. This is a conservative assumption for purposes of this analysis, and every effort would be made to protect trees in place wherever feasible.

Trees would be replaced within the respective project sites and/or elsewhere within the campus boundaries where feasible. If it is not feasible to plant replacement trees for mature trees that are removed at a 1:1 ratio within the campus boundaries, the Tree Replacement Plan that MM 4.3-1(c) requires would include the planting of native shrubs in ecologically appropriate areas within the campus boundaries that would provide nesting, foraging, or roosting habitat for birds so that the replacement number of trees and shrubs would result in a 1:1 replacement ratio.

As shown on Figures 4.3-2 through 4.3-5, with the exception of the UNEX site, there are also trees located adjacent to or in the vicinity of the limits of construction. Although these trees are expected to be protected in place, due to their location adjacent to the construction limits they may be impacted during construction of the proposed housing projects, either directly through impacts to the root zone or indirectly due to more shade cast by the structure to be built. A conservative estimate of 34 mature trees, including 13 protected trees, are located near the construction impact limits that they may be impacted during or after the construction period at each site. To ensure that these are not significantly impacted, the proposed housing projects incorporate PPs 4.3-1(a) (fencing at the drip line); PP 4.3-1(b) (examination and trimming of trees prior to construction); PP 4.3-1(c) (temporary irrigation and feeding); PP 4.3-1(d) (no storing or construction equipment or vehicles in the fenceline of any tree); and PP 4.3-1(e) (monthly examination of trees). Should these trees be impacted during or after construction, replacement requirements under MM 4.3-1(c) or MM 4.3-4 (protected trees) would apply. It should also be noted that during construction and to the extent practicable, trees within the construction impact area may be protected in place. Any trees within the identified impact area that are retained during construction would also be protected under the provisions of PPs 4.3-1(a) through 4.3-1(e).

With implementation of the required tree replacement as part of the proposed housing projects, consistent with MMs 4.3-1(c) and 4.3-4 and with incorporation of required protection measures (PPs 4.3-1[a] through 4.3-1[e]), impacts to trees would be less than significant and no additional mitigation is required.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would have a less than significant impact related to conflict with any applicable policies protecting biological resources.

Threshold 3.5	Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
Threshold 3.6	Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or other applicable habitat conservation plan?

As identified in Section 4.3, Biological Resources, of the March 2009 LRDP Amendment Final EIR, the UCLA campus consists of developed and ornamental areas that are surrounded by

developed and ornamental areas; the campus does not provide a connection between two areas of open space. Therefore, it does not contain suitable habitat that would be used as a wildlife corridor and does not facilitate regional connectivity to core wildlife habitat. There are no established wildlife corridors on campus. The campus also does not include any marshes, wetlands, or tidal zones that could function as wildlife nursery sites. Consistent with the conclusions in the Final EIR, no impacts would result from the proposed housing projects, and no mitigation would be required. Refer to the discussion above under Threshold 3.1 for a discussion of impacts on nesting bird species.

As identified in the IS prepared for the March 2009 LRDP Amendment Final EIR, the UCLA campus is not located within an area governed by a Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). Therefore, as previously consistent with the conclusion in the Final EIR, implementation of development on campus would not conflict with such plans. Consistent with the conclusions of the March 2009 LRDP Amendment Final EIR, there would be no impact resulting from implementation of the proposed housing projects.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

There would no impact on (1) the movement of any native resident or migratory fish or wildlife species; (2) established native resident or migratory wildlife corridors; or (3) the use of native wildlife nursery sites. Additionally, it there would be no conflict with the provisions of an adopted HCP, NCCP, or other applicable HCP.

4.3.5 CUMULATIVE IMPACTS

The geographical context for the analysis of cumulative biological impacts includes the West Los Angeles Community Plan area (which includes the UCLA campus and project area), as well as the Bel Air–Beverly Crest and Brentwood–Pacific Palisades Community Plan areas, which cover the largest portion of the Santa Monica Mountains within the City of Los Angeles. This analysis accounts for all anticipated cumulative growth within this geographic area, as represented by full implementation of the *Los Angeles Citywide General Plan Framework* and development of the related projects in Table 4-1, City of Los Angeles Cumulative Projects, in Section 4.0, Introduction to the Environmental Analysis.

As the proposed housing projects would result in no impacts related to sensitive plant or wildlife species, riparian habitat, wetlands, sensitive natural communities, or habitat conservation plans, the proposed Project would not contribute to a cumulative impact associated with these topics.

Cumulative impacts of development on migratory wildlife species (including raptors and other avian species) or the movement of these species is not likely to be significant. Due to the general lack of habitat for migratory species at the various sites proposed for development by the related projects, cumulative development is not likely to affect migratory species or to impede their movement or migration. In addition, future development would be subject to the Migratory Bird Treaty Act and, where applicable, the Federal and State Endangered Species Acts, which would either preclude disturbance of occupied nests or would require appropriate measures to ensure the safety and preservation of affected species. Even if the effects of cumulative development were to combine in a way that significantly affects migratory species, the proposed Project's contribution to cumulative impacts associated with wildlife movement would not be cumulatively considerable. As discussed above under Threshold 3.1, March 2009 LRDP Amendment Final EIR

MMs 4.3-1(a) and 4.3-1(b) would mitigate, to a less than significant level, direct impacts upon nesting activities of raptors or other bird species by surveying for and actively protecting occupied nests.

Additionally, tree replacement and protection that is included as part of the proposed housing projects (MM 4.3-1[c], MM 4.3-4, and PPs 4.3-1[a] through 4.3-1[e]) would ensure that the proposed project would have a less than significant impact related to removal of trees and habitat for nesting birds and raptors. Cumulative projects would also be subject to the City of Los Angeles Tree Ordinance, which requires the replacement of protected trees at a 2:1 ratio to maintain the long-term population of the protected tree species. As a result, there is no forseeable significant impact to trees to which the proposed Project might make a contribution, due to the coverage of other cumulative impacts by the provision of the Los Angles Tree Ordinance. This is considered to be a less than significant impact.

4.3.6 REFERENCES

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University of California, Los Angeles (UCLA). 2009 (March). *University of California, Los Angeles 2008 Northwest Housing Infill Project and 2002 Long Range Development Plan Amendment Final Environmental Impact Report. Volume I* (SCH No. 2008051121). Los Angeles, CA: UCLA Campus Capital Programs.

4.4 CULTURAL AND TRIBAL CULTURAL RESOURCES

Cultural resources issues are addressed in Section 4.4 of the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR), which is incorporated by reference into this Draft Subsequent EIR (SEIR). This section describes the cultural resources (historical, archaeological, paleontological, and tribal cultural resources[1]) present or potentially present at the project sites and evaluates the potential impacts from proposed development to these resources. In addition to the March 2009 LRDP Amendment Final EIR, resources used to prepare this section include:

- March 2009 LRDP Amendment Final EIR;
- Records search conducted by the South Central Coastal Information Center (SCCIC) in February 2016;
- *Warren Hall Historic Resource Evaluation, University of California, Los Angeles [11124I]* (Warren Hall HRE) (Page & Turnbull, Inc. 2017a);
- *Project Impact Analysis for Warren Hall as Part of UCLA's Long Range Development Plan Amendment EIR* (Page & Turnbull, Inc. 2017b)*;* and,
- *University Extension Building Historic Resource Evaluation, University of California, Los Angeles [11124J]* (UNEX HRE) (Page & Turnbull, Inc. 2016).

The Historic Resource Evaluation reports are provided in Appendix E of this Draft SEIR.

Relevant elements of the proposed Project related to cultural and tribal cultural resources include demolition of existing buildings at Lot 15, Warren Hall, and UNEX sites and, with the exception of the Drake Stadium site, proposed excavations that would occur in native soils.

4.4.1 ENVIRONMENTAL SETTING

Records Search Results

The South Central Coastal Information Center (SCCIC) conducted a records search for the UCLA campus on February 23, 2016. The results of the records search show that 16 historic resources have been recorded within the campus boundaries. The Historical Resources Inventory lists 13 historic resources that are either listed or eligible for listing at the federal or State level. An additional 31 historic resources are located outside the campus, within a ¼ mile radius. Of these, 22 appear eligible for listing at the federal or State level. There have been 52 technical studies conducted on and within a ¼ mile radius of the campus. Of these, 23 were conducted on the campus. Additional information provided by SCCIC includes site records, report lists, and historic 1902 and 1921 Santa Monica maps for the general area.

The records search did not identify historic resources at any of the five proposed housing sites. Further, no historic or prehistoric archaeological sites have been recorded on or within ¼ mile of the campus.

[1] Assembly Bill 52 required an update to Appendix G (Initial Study Checklist) of the State CEQA Guidelines to include questions related to impacts to tribal cultural resources. Changes to Appendix G were approved by the Office of Administrative Law on September 27, 2016. The Office of Planning and Research (OPR) subsequently updated Appendix G to include the questions and language that was approved by the Office of Administrative Law.

Historic Resources

Description

The Page & Turnbull Project Impact Analysis for Warren Hall states that a building may qualify as a historic resource if it falls within at least one of four categories listed in Section 15064.5(a) of the California Environmental Quality Act (CEQA) Guidelines, which are defined as follows:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register) (California Public Resources Code, Section 5024.1; California Code of Regulations [CCR], Title 14, Section 4850 et seq.).

2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (California Public Resources Code, Section 5024.1; 14 CCR 4852).

4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code, Sections 5020.1(j) or 5024.1.

As discussed in Section 4.4 of the March 2009 LRDP Amendment Final EIR, structures and features must typically be at least 50 years old to be considered for listing in the National Register of Historic Places (NRHP), barring exceptional circumstances. Criteria for listing, which are set forth in Title 36 of the *Code of Federal Regulations* (36 CFR Part 60.4), require that a resource exhibit integrity and demonstrate its relationship to similar resources; its association with significant individuals or events; and/or its potential to contribute important information to scholarly research. The CRHR was created to identify resources deemed worthy of preservation on a State level and was modeled closely after the NRHP. The CRHR criteria are nearly identical to those of the NRHP, but focus upon resources of statewide, rather than national, significance. The CRHR automatically includes resources listed on the NRHP. As such, they are considered historic resources under CEQA. See Section 4.4.2, Regulatory Framework, for details on the NRHP and CRHR.

Historic Resources On Campus

Table 4.4-1 in Section 4.4 of the March 2009 LRDP Amendment Final EIR identifies 13 campus structures that were identified as potentially eligible for listing in the NRHP and/or the CRHR at the time the NOP for the EIR was published. The majority of these structures are within the campus historic core in the Core Campus zone. As described in the March 2009 LRDP Final EIR, the campus historic core is formed by Royce Hall (1929), along with Powell Library (1929) across Dickson Plaza (including the bridge) to its south; with Haines Hall (1929) to its east; Kinsey (1929) to its southeast; and its linkages to Moore Hall (1930), Kerckhoff Hall (1931), the Men's Gym (1932), and Glorya Kaufman Hall (1932) at the foot of Janss Steps. Murphy Hall (1937) is also considered to be part of the Historic Campus Core. In addition to the oldest and grandest campus structures, the historic core includes urban design elements, such as decorative sidewalks, landscape design, and the ornamental lights of Dickson Plaza and Janss Steps. The Final EIR does not identify any structure on or adjacent to the proposed housing sites as potentially eligible historic resources.

However, the March 2009 LRDP Amendment Final EIR acknowledges that, over time, additional campus structures may be eligible for listing and therefore individual development projects must consider historic resources in accordance with CEQA. The Historical Resources Assessment prepared to support the Tiered Initial Study/Mitigated Negative Declaration for the Pauley Pavilion Renovation and Expansion Project (UCLA 2009b) determined that Pauley Pavilion is potentially eligible for listing in the NRHP and the CRHR; Pauley Pavilion is not listed in these registers. Pauley Pavilion is located more than 400 feet from the nearest proposed housing sites (Drake Stadium and Bradley), and there is intervening development and mature vegetation.

Historic Significance of Structures at the Proposed Housing Sites

There are existing structures on the Lot 15, Warren Hall, and UNEX sites. As required by Campus Programs, Practices, and Procedures (PP) 4.4-1(a) of the March 2009 LRDP Amendment Final EIR, UCLA has had these resources evaluated for potential historic significance (see discussion below). The Bradley site is currently undeveloped with landscaping and mature trees covering the site. Bradley Hall, which abuts the Bradley site to the north, was constructed in 1998 and is not a potentially eligible historic resource. The proposed housing at Drake Stadium would be constructed in the area over and surrounding the existing stadium concourse. UCLA has not identified any historic resources at or in the immediate vicinity of the Drake Stadium site.

<u>Lot 15</u>

Two structures, referred to as the Ornamental Horticultural Area Buildings occupy the Lower Pad of the Lot 15 site. The western building was constructed by Graham Latta in 1958. The building is a very simple rectangular, stucco-clad structure. It is one and one-half stories with the back half of the building containing a clerestory with windows facing the north, front facade of the building. The 1958 building is a functional design for a utilitarian building. As an individual structure, it does not appear eligible for inclusion on the CRHR for its architectural significance or for its association with persons or events of historic significance. The eastern building is an aluminum sided, barn-like building that was constructed in 1975 and is not a potentially eligible historic resource (Kaplan Chen Kaplan 2010).

<u>Warren Hall</u>

The Warren Hall HRE was prepared by Page & Turnbull in January 2017 and provides a building description, historic context, and an examination of the current historic status for Warren Hall. The HRE also includes an evaluation of the property's eligibility for individual listing in the NRHP and

CRHR. As a state agency, the University of California is exempt from local regulation. However, information about the City of Los Angeles' historic preservation efforts is included for reference. The Warren Hall HRE is included in its entirety in Appendix E of this Draft SEIR.

As identified in the HRE, Warren Hall, which is located at 900 Weyburn Place in the Southwest zone of the UCLA campus, is not currently listed in the NRHP or CRHR, or as a City of Los Angeles Historic-Cultural Monument (HCM), and is not within a City of Los Angeles Historic Preservation Overlay Zone (HPOZ). Further Warren Hall has not been recorded in the California Historic Resources Information System (CHRIS) database, and was not evaluated in SurveyLA.

Warren Hall was designed by the architecture firm Neptune & Thomas and was completed in 1961. The Midcentury Modern building is a two-story U-shaped laboratory and office building with a partial basement. In the rear service court, a one-story section extends south from the tall circulation core at the east end of the north wing; this section originally housed the radiation facilities. A stand-alone two-story greenhouse original to the construction is also in the service court north of the south wing. A one-story building, the Larry Hillblom Islet Research Center, was added to the Warren Site in 2004 at the site's southeast corner and is separated from the south wing by a walkway.

Following is a summary of the evaluation of Warren Hall.

Eligibility for Listing in the NRHP and CRHR

- **Criterion A/1 (Events).** Warren Hall appears to be eligible for listing under Criterion A/1 for the association with biomedical research funded by the Atomic Energy Commission (AEC) during the Cold War, and in the development of nuclear medicine as a field. In addition to weapons development and nuclear energy, the AEC funded medical and biological research to understand the impact of radiation on humans as well as the environment, and determine safe levels of exposure, among other things. Warren Hall was built specifically to house the Laboratory of Nuclear Medicine and Radiation Biology, which was an AEC-funded project that began in 1947 as the UCLA Atomic Energy Project for researching how to safeguard the public against the effects of radiation. The result of the research, in turn, helped to build the field of nuclear medicine in the safe use of nuclear materials for medical treatment and the development of nuclear imaging diagnostic tools.

  UCLA was one of a handful of higher-education institutions across the country that received postwar AEC research funding and was one of two programs to continue that funding as the AEC's attention shifted to weapons development. UCLA received funding because of Dr. Stafford L. Warren, who was the Chief Medical Officer of the Manhattan Project and a key figure in the burgeoning nuclear medicine field, became the dean of UCLA's new medical school in 1947.

  The Atomic Energy Project was located in temporary buildings until Warren Hall was purposely built in 1961 to house the project, known by then as Laboratory of Nuclear Medicine and Radiation Biology. The Midcentury Modern building included radiation facilities to contain radioactive materials, as well as a greenhouse to study plant life. The building's construction reflected the AEC's commitment to and growing importance of nuclear medicine research.

  Although the Atomic Energy Project's early years were not in Warren Hall, the Laboratory of Nuclear Medicine and Radiation Biology continued its research and made significant contributions to the nuclear medical field. By the mid-1970s, the AEC dissolved and the nuclear medicine field had matured so that research was being conducted elsewhere at UCLA's Health Science Center and other institutions. The laboratory changed its name in

1981 to the Laboratory of Biomedical and Environmental Sciences, reflecting the change in its focus and the end of its period of significance.

Warren Hall best represents the involvement of UCLA with the early development of nuclear medicine as a field and with the AEC's efforts to study the biomedical effects of radiation in concert with its efforts at managing the country's nuclear program during the Cold War. As such, it meets the criteria for listing in the NRHP and CRHR under Criterion A/1. The period of significance for this criterion is 1961–1981 from the year of construction until the Laboratory of Nuclear Medicine and Radiation Biology became a different program.

- **Criterion B/2 (Persons).** Warren Hall does not appear to be eligible for listing under Criterion B/2 for the association with a significant individual. The building is named for Dr. Stafford L. Warren, who is a significant individual for his role in the development of nuclear science as a field, particularly as the Chief Medical Officer of the Manhattan Project's Medical Division and as the founding dean of the UCLA Medical School. However, Dr. Warren's productive career did not occur at the subject building. He retired as the dean of the medical school in 1961 and became the Vice Chancellor for Health Sciences at UCLA just as the building was completed. Although Dr. Warren was a key factor in UCLA receiving AEC funding to start the Atomic Energy Project that ultimately became the Laboratory of Nuclear Medicine and Radiation Biology, that association predated the building. As Warren Hall is not significant to the career of Dr. Warren, it does not meet the criteria for listing in the NRHP or CRHR under Criterion B/2.
- **Criterion C/3 (Architecture).** Warren Hall is also significant under Criterion C/3 as embodying the distinctive characteristics of the Midcentury Modern architectural style. It is organized as a series of interconnected volumes that reflects the functionalism of postwar modern design, with each volume type (main wings, circulation cores, entrance pavilion, etc.) representing a specific use and distinguished by its shape and materials. The most defining feature of the building is its perforated concrete screen walls, where its modular, geometric design is characteristic of Midcentury Modern design. Its Midcentury design is reinforced by the structural clarity seen in the exposed floor plates and the modular window wall system. The effect is striking, especially on the front (west) facade where the glazed connector and the entrance pavilion contrast with the concrete screens. A detailed description of the building design/architecture is provided in the HRE included in Appendix E.

  While reflective of the work of Neptune & Thomas, Warren Hall does not appear significant as an important work of the firm. Similarly, it is not a significant work of landscape architects Cornell, Bridgers & Troller, as much of the landscaping and site has been altered. As with other UCLA projects where their role is Supervising Architect, Warren Hall is not significant as a design of Welton Becket and Associates. Warren Hall is a good, representative example of Midcentury Modern architecture, possessing high artistic values and as such, it meets the criteria for listing in the NRHP and CRHR under Criterion C/3. The period of significance for this criterion is 1961, the year construction was completed.
- **Criterion D/4 (Information Potential).** The "potential to yield information important to the prehistory or history of the local area" typically relates to archeological resources, rather than built resources. When Criterion D/4 does relate to built resources, it is for cases when the building itself is the principal source of important construction-related information. Based on historic research, Criterion D/4 is not applicable to Warren Hall.

Integrity

Warren Hall has not been significantly altered since its construction. It has not been relocated and maintains its integrity of location. Its design has not been altered significantly. Its massing and intersecting volumes remain clearly visible and it still has all the components originally designed for nuclear medicine research in the radiation facilities and greenhouse. The small addition around the radiation facilities does not substantially affect the building's design. Warren Hall retains much of its original materials and workmanship, most notably in the flexboard window wall and concrete screen wall systems, as well as the vertically oriented pattern on the concrete walls of the circulation cores and entrance pavilions. The building generally retains its feeling as a Midcentury Modern design, and as a postwar classroom and laboratory facility. Although the building no longer houses any nuclear medicine or Department of Energy programs, the building has not been substantially altered so that it is has lost its association with the important work of the Laboratory for Nuclear Medicine and Radiation Biology.

The setting around Warren Hall has changed substantially. The addition of multi-story apartments for graduate student housing encircles the building, which once stood alone on a hill for many years and was visible from the surrounding streets. The housing also introduced a new street in Weyburn Terrace that altered the approach to the building and its circulation so that the front of Warren Hall is no longer easily accessible to the public. The construction of the Hillblom Islet Center at the rear of the site has also affected Warren Hall's setting, but to a lesser extent.

Overall, Warren Hall has lost its integrity of setting, but has retained enough elements in integrity related to its historic and architectural significance (location, design, materials, workmanship, feeling, and association) to be eligible for the NRHP and CRHR.

Character Defining Features

For a property to be considered historic, the essential physical features (or character-defining features) that enable a property to convey its historic integrity must be evident. To be eligible, a property must clearly contain enough of those characteristics, and these features must also retain a sufficient degree of integrity. This includes character-defining features (those elements or architectural components that establish the visual character of the property), and significant spaces (rooms or spaces that are important to a property because of their size, height, proportion, configuration, and function). In summary, the character-defining features and significant spaces for Warren Hall include the following; additional information regarding these features is provided in the HRE included in Appendix E of this Draft SEIR:

- Two-story, U-shaped plan with flat roof
- Massing as intersecting rectangular volumes
- Three linear wings
    - Concrete screens with geometric design
    - Visible edge of concrete floor plates with recessed base
    - Exterior window wall system set between structural bays
    - Scored concrete ends with minimal openings
- Circulation cores
    - Glazed connector between the north and west wings with walls of aluminum-framed glazing displaying a concrete stair
    - Vertically patterned concrete walls
    - Open staircases

- Entrance pavilion
    - Glazed window wall at entrances
    - Vertically patterned concrete walls at the exterior and interior
    - Exterior window wall system set between structural bays
    - Skylights
    - Floating stair and platform
- Thick, concrete walls in the radiation facility
- Greenhouse with its glazed and concrete walls, and glazed gable roof
- Original aluminum and steel windows throughout
- Interior
    - Double-loaded corridors
    - Concrete stair and railing at glazed connector
    - Original "atrium" space in the entrance pavilion
    - Aluminum-framed glazed wall with wood doors leading to the "atrium"
- Pebble aggregate concrete paver floors and a concrete wall with vertical pattern in the "atrium"

UNEX Building

The UNEX Building, which is located at 10995–10997 Le Conte Avenue in the Bridge zone of the UCLA campus, is not currently listed in the NRHP or CRHR; is not listed as a California Historical Landmark or California Point of Historical Interest; is not a City of Los Angeles HCR; and is not within a City of Los Angeles HPOZ. Although owned by UCLA and not subject to City of Los Angeles' local laws, UNEX was surveyed by SurveyLA as part of the Westwood Community Plan Area. The Historic Resources Survey Report prepared by Historic Resources Group in March 2015 as part of SurveyLA identified the building as individually eligible for listing in the CRHR with the status code of 3CS (appears eligible for the CRHR as an individual property through survey evaluation), and eligible as a City of Los Angeles HCM with the status code 5S3 (appears to be individually eligible for local listing or designation through survey evaluation).

However, a detailed HRE was prepared for the UNEX Building by Page & Turnbull in December 2016; the HRE is included in its entirety in Appendix E of this Draft SEIR. The results of the HRE are summarized below.

Opened in 1971, the building was designed by the noted Southern California architecture firm of Jones and Emmons, with UCLA campus landscape architect Cornell, Bridgers & Troller listed on the original plans, along with UCLA's consulting architect Welton Becket, F.A.I.A. The property consists of a seven-story with partial ground level, Late Modern office building with a small parking lot on the west, a service driveway on the north, and landscaping on the public (west, south, and east) facades. Above the first and ground floors, all four facades are similar in design. The UNEX building brought the administrative functions of the UCLA Extension program into one building; however, Extension classes were still held on the main campus, in the Extension's downtown Los Angeles center, and throughout Los Angeles County, from Pasadena to Rosemead, Torrance, and Woodland Hills. In addition to Extension administration and registration, UNEX housed other tenants, including the Regional Medical Programs and the UCLA Alumni and Development Center.

Following is a summary of the evaluation of the UNEX Building.

Eligibility for Listing in the NRHP and CRHR

- **Criterion A/1 (Events).** UNEX does not appear to be associated with events or activities that have made a significant contribution to the broad patterns of history. The University Extension program began at the Berkeley campus in 1892. It was already well-established at UCLA by the time the UNEX building was constructed. While it brought the administrative functions of the UCLA Extension program into one location, the building was not primarily where Extension classes were held in Los Angeles or even in Westwood. When it was built, UNEX was at the outskirts of the main campus, separated by Gayley Avenue and isolated by parking lots, service buildings, and open space. It does not contribute to campus as a cultural landscape, and does not relate, in program or in appearance, to any of the campus buildings. Developing the property helped to connect the main campus to the West Medical Campus under development at the time, but was not related to other development in Westwood. The subject property is not significant under Criterion A/1.
- **Criterion B/2 (Person).** No associations with the lives of persons important in history were discovered during preparation of HRE. The UNEX building is used by the campus population, community at large, and visiting faculty, generally on a relatively short-term basis. No significant achievements or contributions of building users for which the UNEX building would be the best representation are known. The subject property is not significant under Criterion B/2.
- **Criterion C/3 (Architecture).** Although UNEX was designed by Jones and Emmons, a firm of recognized greatness for their Midcentury Modern architecture, it is not a significant building when considered within the totality of their output. The building design started in 1965 and was completed in 1971, after Emmons retired from the partnership. It is one of several university-related buildings by the firm and its successor, A. Quincy Jones and Associates. It shares common features with the firms' larger-scale institutional works, such as an expressed structural system and a transparent ground and first floor, but it lacks the design clarity or coherence of the either firm's better university works. It is a straightforward institutional office building that reflects the stylistic trend towards concrete construction typical of this period, but the component pieces fail to create a compelling design. The sunshades at UNEX, appear thin and insubstantial compared to the large concrete bands and lack the weight to contrast with the bands' massing. At the same time, the sunshades' canopies interrupt the vertical piers in a way where the piers' sense of depth and crisp shadow lines are lost. Last-minute design changes altered the building's top floor and parapet proportions, so that it is out of scale and further unbalances the overall composition. The same flaws undermine the UNEX building as an example of Late Modern design. It has some notable features such as the open walkway along the south and east first floor and the landscaping elements near the entrances, but its component features that are found in Late Modern designs do not add up to a distinguished example that best represent the period.

  The building was not recognized at the time of its construction in the architectural press, nor has it been subsequently documented in architectural guides or historic surveys. It was not included in the 2013 exhibition devoted to the work of A. Quincy Jones mounted by the University of California Hammer Museum. Better examples of Jones and Emmons university buildings exist, such as the Biological Sciences Building at University of California (UC) Santa Barbara, the Charles E. Young Research Library at UCLA, the Carillon Tower at UC Riverside, the Annenberg School for Communication and Journalism at the University of Southern California (USC), and the Leo F. Cain Library at California

State University, Dominguez Hills; the latter two showcase Jones' experimentation with volumes and more complex compositions that characterized his later work.

Better examples of Late Modern also exist in Westwood and in Los Angeles, including the Home Savings of America by Frank Homolka & Associates and Gayley Center by Krisel-Shapiro Associates, as well as A. Quincy Jones' Annenberg School for Communication and Journalism at USC. As such, the UNEX building does not meet Criterion C/3 as embodying the distinguished characteristics of Late Modern architecture, nor as an important work of Jones and Emmons or A. Quincy Jones.

- **Criterion D/4.** The UNEX building does not appear to be a principal source of important information.
- **Criteria Consideration G.** The NRHP typically excludes properties that achieved significance within the last 50 years unless they are of exceptional significance. The phrase "exceptional significance" may be applied to the extraordinary importance of an event or to an entire category of resources so fragile that survivors of any age are unusual. The resource does not need to be of national significance but it can only be evaluated when sufficient historical perspective exists to determine that the property is exceptionally important. The necessary perspective is often provided by scholarly research and evaluation, and must consider both the historic context and the specific property's role in that context. The research conducted for the HRE does not indicate that UNEX is of exceptional importance to have achieved significance within the last 50 years. As such, it does not meet Criteria Consideration G for listing in the NRHP.

Integrity

In order to qualify for listing in any national, State, or local register, a property must possess significance under one of the aforementioned criteria and have historic integrity. The same seven variables or aspects that define integrity—location, design, setting, materials, workmanship, feeling and association—are used to evaluate a resource's eligibility for listing in the CRHR and NRHP. The UNEX building property retains substantial integrity of location, setting, design, materials, workmanship, feeling, and association. Alterations to the exterior are minimal and interior alterations are mostly limited to finishes or spaces that would not be considered to be primary. However, the building does not meet any of the criteria of significance, as discussed above.

Based on the information presented in the HRE, the UNEX Building is not a historic resource under CEQA (Page & Turnbull 2016).

Off-Campus Historic Resources in the Vicinity of the Proposed Housing Sites

Table 4.4-1 provides a list of the known and potential historic resources in the immediate vicinity of the five development sites; these resources are shown in Figure 4.4-1. The known historic resources are those that are listed in the NRHP, CRHR, or as a City of Los Angeles HCM. The potential historic resources are those that have been identified in a qualified survey and given a CHRIS status code of 1 through 5. The known and potential historic resources list was developed from the following:

- Records search from the SCCIC for the project area. Information mostly gathered from the CHRIS Directory of Properties in the Historic Property Data File for Los Angeles County, dated April 5, 2012, and highlighted with addresses in the project area, as well as Department of Parks and Recreation (DPR) 523 forms.

- Map view of HistoricPlacesLA.org, the online information system of the City of Los Angeles' significant historic resources, which includes designated HCMs and SurveyLA findings.
- SurveyLA results for the Westwood Community Plan Area, published by the City of Los Angeles' Office of Historic Resources, but not yet in HistoricPlacesLA.org

TABLE 4.4-1
KNOWN AND POTENTIAL HISTORIC RESOURCES
IN THE VICINITY OF PROPOSED PROJECT SITES

	Name	Address	Built Date	Status Code	Status/Source	Significance
A	University Crest Residential Historic District	Sunset Blvd, Veteran Ave, Montana Ave, and Sepulveda Blvd	1929–1959	3S; 3CS; 5S3	NRHP, CRHR, and locally eligible/ SurveyLA	Cohesive collection of Period Revival residential buildings
B	Strathmore Apartment	11005 W Strathmore Dr	1937	1S, 5S1	NRHP, HCM No. 351	International Style multi-family residential building by Richard Neutra
C	Phi Gamma Delta Fraternity House	11023 W Strathmore Dr	1931	3S; 3CS; 5S3	NRHP, CRHR, and locally eligible/ SurveyLA	Spanish Colonial Revival multi-family residential building; associated with Fraternity Row
D	Apartment Building	931 S Gayley Ave	1947	3S; 3CS; 5S3	NRHP, CRHR, and locally eligible/ SurveyLA	Streamline Moderne multi-family residential building
E	Gayley Terrace	959 S Gayley Ave	1940	5S1	HCM No. 363	Spanish Colonial Revival multi-family residential building
F	Commercial Building	1015 S Gayley Ave	1947	3S; 3CS; 5S3	NRHP, CRHR, and locally eligible/ SurveyLA	Late American Commercial Revival commercial building
G	Los Angeles National Cemetery	Wilshire Blvd	1888–present	1D	NRHP	Contributor to West Los Angeles VA Historic District listed in National Register in 2014
H	Fox Village Theatre	959 S Broxton Ave	1931	5S1	HCM No. 362	Spanish Colonial Revival movie theater
I	Fox Bruin Theater	926 S Broxton Ave	1937	5S1	HCM No. 361	Art Deco movie theater by S. Charles Lee
J	El Paseo	1001 S Broxton Ave	1931	3S; 3CS; 5S3	NRHP, CRHR, and locally eligible/ SurveyLA	Spanish Colonial Revival commercial building associated with original development of Westwood
K	Beta Theta Pi Fraternity House	581 S Gayley Ave	1930	3S; 3CS; 5S3	NRHP, CRHR, and locally eligible/ SurveyLA	Spanish Colonial Revival multi-family residential building; associated with Fraternity Row
L	University Lutheran Chapel	10915 W Strathmore Dr	1965	3CS; 5S3	CRHR and locally eligible/ SurveyLA	Mid-Century Modern/Expressionist institutional building

TABLE 4.4-1
KNOWN AND POTENTIAL HISTORIC RESOURCES
IN THE VICINITY OF PROPOSED PROJECT SITES

	Name	Address	Built Date	Status Code	Status/Source	Significance
M	Sheats Apartments	10919 W Strathmore Dr.	1949	5S1	HCM No. 367	Modern multi-family residential building by John Lautner
N	Phi Kappa Sigma Fraternity House	10938 W Strathmore Dr	1930	3S; 3CS; 5S3	NRHP, CRHR, and locally eligible/ SurveyLA	Mediterranean Revival multi-family residential building by Webber & Spaulding; associated with Fraternity Row
O	Theta Xi Fraternity House	629 S Gayley Ave	1929	3S; 3CS; 5S3	NRHP, CRHR, and locally eligible/ SurveyLA	Spanish Colonial Revival multi-family residential building by Witmer & Watson; associated with Fraternity Row
P	Hardman-Hanson Hall	500 S Landfair Ave	1972	3CS; 5S3	CRHR and locally eligible/ SurveyLA	Brutalist multi-family residential building

NRHP: National Register of Historic Places; CRHR: California Register of Historic Resources; HCM: Los Angeles Historic-Cultural Monument; VA: Veteran's Administration.

California Historical Resource Status Codes
1D: Contributor to a district or multiple resource property listed in NR by the Keeper. Listed in the CR.
1S: 1S Individual property listed in NR by the Keeper. Listed in the CR.
3S: Appears eligible for NR as an individual property through survey evaluation.
3CS: Appears eligible for CR as an individual property through survey evaluation.
5S1: Individual property that is listed or designated locally.
5S3: Appears to be individually eligible for local listing or designation through survey evaluation.

Source: Page & Turnbull 2017b.

Archaeological and Tribal Cultural Resources

Section 4.4.1, Environmental Setting, of the March 2009 LRDP Amendment Final EIR includes a description of the prehistoric context of the Los Angeles Basin and archaeological resources on the campus. In summary, prehistoric settlement in the Los Angeles Basin appears to have been shaped by an environment that favored subsistence practices and may have consisted of either villages or temporary/seasonal camps of special functions. Native American sites used in the harvest of marine foods formed a band along the Los Angeles Basin coast north from the Ballona Wetlands. Inland sites often appeared near springs or seeps or in proximity to oak groves. Other sites, many undocumented, were located to take advantage of desirable faunal, mineral, wild plant, and seed resources.

To date, no archaeological resources or tribal cultural resources[2] have ever been recovered or recorded on campus. Based on a records search for the UCLA campus completed by Wendy Teeter, Curator of Archaeology, Fowler Museum, UCLA, at the SCCIC in June 2008, and the

[2] Tribal cultural resource is defined in Section 21074 of the California Public Resources Code as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is (a) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Section 5020.1(k) of the Public Resources Code; or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

updated records search conducted by the SCCIC in February 2016, no historic or prehistoric archaeological sites have been recorded on or within a ¼ mile of the campus. The Sacred Lands File (SLF) check completed by the Native American Heritage Commission (NAHC) for the March 2009 LRDP Amendment Final EIR did indicate the presence of Native American cultural resources in the vicinity of the campus.

The majority of the campus is developed, and exposed ground consists of fill material or other earth that has been subject to previous disturbance for construction of existing structures and/or infrastructure. The possibility of discovering archaeological or tribal cultural resources during excavation for future campus projects cannot be discounted because, although no resources have been recovered or recorded on campus, much of the campus was constructed prior to the cultural resources and tribal cultural resources identification requirements of CEQA. Therefore, it is possible that resources exist under existing buildings, structures, parking lots, and other development.

Paleontological Resources

As described in the March 2009 LRDP Amendment Final EIR, paleontological resources include fossil remains, fossil localities, and formations that have produced fossil material in other nearby areas. Paleontological resources are limited, nonrenewable, sensitive, scientific and educational resources protected by State and federal environmental laws and regulations. No unique geological feature is known to exist on the campus.

During preparation of the 2002 LRDP Final EIR, the San Diego County Museum of Natural History assessed the probability and nature of potential fossil remains on the UCLA campus. The assessment included research to determine which rock units underlie the campus and a literature survey to assess whether these rock units are fossil-bearing. Three rock units were identified beneath the UCLA campus: Upper Miocene Monterey Formation, Quaternary Older Alluvium, and Quaternary Alluvium. Quaternary Older Alluvium is a generalized term for many terrestrial sedimentary environments that may contain fossils. The Monterey Formation contains shallow to deep marine sediments that have produced a wide variety of vertebrate and invertebrate fossils. The literature survey and record searches at the Natural History Museum of Los Angeles County and the Museum of Paleontology at University of California, Berkeley, indicate that no fossils have been reported from any of the deposits located within the campus boundaries. Further, no paleontological resources have ever been found on campus. However, the same rock units have, in nearby contexts, yielded fossils of substantial number and importance, and the potential exists for the rock units underlying the campus to yield fossils.

As discussed in Section 4.5, Geology and Soils, of this Draft SEIR, geotechnical investigations indicate that the proposed housing sites are underlain by artificial fill and Holocene- and Pleistocene-aged alluvial deposits. The Lot 15 site is also underlain with Pleistocene-age debris flow deposits and Miocene-aged sedimentary bedrock of the Monterey Formation. The Pleistocene and Miocene sediments are categorized as having high paleontological sensitivity, while the artificial fill is unlikely to produce any significant fossils. With the exception of the Bradley site, which is currently undeveloped, the proposed housing developments are located on previously disturbed/developed areas.

4.4.2 REGULATORY FRAMEWORK

Section 4.4 of the March 2009 LRDP Amendment Final EIR provides a complete discussion of the regulatory framework for the analysis of cultural resources, including historical, archaeological, and paleontological resources. The following discussion focuses on regulatory information presented in the Final EIR that is particularly relevant to the proposed Project, and new or updated regulations since the Final EIR was prepared.

Federal

The National Historic Preservation Act of 1966

The National Historic Preservation Act (NHPA) of 1966 (as amended) established the NRHP as the official federal list of cultural resources that have been nominated by State Offices for their historical significance at the local, State, or national level. Cultural resources are considered during federal undertakings chiefly under Section 106 of the NHPA (16 *United States Code* [U.S.C.] 470f) through its implementing regulation (36 CFR 800, Protection of Historic Properties) and through the National Environmental Policy Act (NEPA). Section 106 requires federal agencies to take into account the effects of their undertakings on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings (36 CFR 800.1).

Properties listed in the NRHP or that are "determined eligible" for listing must meet certain criteria for historical significance and possess integrity. Significance is determined by four aspects of American history or prehistory recognized by the NRHP Criteria, which are promulgated in 36 CFR 60.4 and listed below. Eligible properties must meet at least one of the criteria and exhibit "integrity", which is measured by (1) the degree to which the resource retains its historical properties and conveys its historical character; (2) the degree to which the original fabric has been retained; and (3) the reversibility of changes to the property.

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) that are associated with the lives of persons significant in our past; or

(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) that have yielded, or may be likely to yield, information important in prehistory or history.

Secretary of the Interior's Standards for Treatment of Historic Properties

The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, & Reconstructing Historic Buildings (Weeks and Grimmer 1995) and *The Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings* (Grimmer and Weeks 1997) (Secretary's Standards) are promulgated pursuant to the NHPA, as amended (16 U.S.C. 470 et seq.). The Secretary's Standards provide general guidance on appropriate treatments for historical

resources. CEQA utilizes the Secretary's Standards as a means of evaluating proposed projects and potential impacts on historical resources. The Secretary's Standards are not prescriptive or technical, but "are intended to promote responsible preservation practices" and "provide philosophical consistency" to treatments for historical resources (Grimmer and Weeks 1997 Introduction). The following are brief descriptions of four possible treatment approaches:

- **Preservation** places a high premium on the retention of all historic fabric through conservation, maintenance and repair, including the building's historic form, features, and detailing as they have evolved over time, through successive occupancies.
- **Rehabilitation** emphasizes the retention and repair of historic materials, but more latitude is provided for replacement because it is assumed the property is more deteriorated prior to work. (Both preservation and rehabilitation standards focus attention on the preservation of those materials, features, finishes, spaces, and spatial relationships that, together, give a property its historic character.)
- **Restoration** focuses on the retention of materials from the most significant time in a property's history, while permitting the removal of materials from other periods.
- **Reconstruction** establishes limited opportunities to re-create a non-surviving site, landscape, building, structure, or object in all new materials, primarily for interpretive purposes.

State

California Environmental Quality Act and California Register of Historical Resources

CEQA requires a lead agency to determine whether a project would have a significant effect on one or more historical resources. According to Section 15064.5(a) of the State CEQA Guidelines, a "historical resource" is defined as a resource listed in or determined to be eligible for listing in the CRHR (*California Public Resources Code* [PRC] Section 21084.1); a resource included in a local register of historical resources (14 CCR 15064.5[a][2]); or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (14 CCR 15064.5[a][3]). In the State of California, fossil remains are considered to be limited, nonrenewable, and sensitive scientific resources and are included in CEQA. Paleontological resources are provided protection as historical resources, as discussed in Section 15064.5(a)(3) of the State CEQA Guidelines, and as unique paleontological resources in the CEQA Environmental Checklist form, Appendix G, V. Cultural Resources (c).

Section 5024.1 of the PRC, Section 15064.5 of the State CEQA Guidelines, and Sections 21083.2 and 21084.1 of the CEQA Statutes were used as the basic guidelines for the cultural resources analysis. Section 5024.1 of the PRC requires evaluation of historical resources to determine their eligibility for listing in the CRHR. The purposes of the CRHR are to maintain listings of the State's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR, which were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP (per the criteria listed at 36 CFR 60.4), are stated below.

> A resource may be listed as an historical resource in the California Register if it meets any of the following National Register of Historic Places criteria:
>
> (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or
>
> (2) Is associated with the lives of persons important in our past; or

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(4) Has yielded, or may be likely to yield, information important in prehistory or history.

According to Section 15064.5(a) (3)(A–D) of the State CEQA Guidelines, a resource is considered historically significant if it meets the criteria for listing in the NRHP (per the criteria listed at 36 CFR 60.4). Impacts that affect those characteristics of the resource that qualify it for the NRHP or that would adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered to have a significant effect on the environment. Impacts to cultural resources from a project are thus considered significant if the project: (1) physically destroys or damages all or part of a resource; (2) changes the character of the use of the resource or physical feature within the setting of the resource that contributes to its significance; or (3) introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

The purpose of a cultural resources investigation is to evaluate whether any cultural resources remain exposed on the surface of the project site or whether any cultural resources can reasonably be expected to exist in the subsurface. If resources are discovered, management recommendations would be required to evaluate the resources for CRHR eligibility.

Broad mitigation guidelines for treating historical resources are codified in Section 15126.4(b) of the State CEQA Guidelines. To the extent feasible, public agencies should seek to avoid significant effects to historical resources, with preservation in place being the preferred alternative. If not feasible, a data recovery plan shall be prepared to guide subsequent excavation. Mitigation for historical resources such as buildings, bridges, and other structures that are consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (Weeks and Grimmer 1995) will generally be considered mitigated below a level of significance.

Properties listed, or formally designated eligible for listing, on the NRHP are automatically listed on the CRHR, as are State Landmarks and Points of Interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

Section 21083.2(g) of the *California Public Resources Code* describes a "unique archaeological resource" as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required including, but not limited to (1) deeding sites to conservation easements; (2) capping or covering sites with stable soils before building on them;

(3) planning parks or green space to incorporate sites; and (4) data recovery excavation, among other measures (see Section 21083.2[a]–21082.2[c]).

Assembly Bill 52

In September 2014, Governor Brown signed Assembly Bill (AB) 52 (Chapter 532, Statutes of 2014), which creates a new category of environmental resources that must be considered under CEQA: "tribal cultural resources." The legislation imposes new requirements for offering to consult with California Native American tribes regarding projects that may affect a tribal cultural resource, emphasizes a broad definition of what may be considered to be a tribal cultural resource, and includes a list of recommended mitigation measures (MMs).

Recognizing that tribes may have expertise regarding their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. MMs agreed upon during consultation must be recommended for inclusion in the environmental document.

AB 52 became effective on July 1, 2015, and requires that the lead agency provide project notifications to California Native American tribes that request notification in writing prior to a lead agency's release of an NOP for an EIR, a Mitigated Negative Declaration (MND), or Negative Declaration (ND). Once Native American tribes receive a project notification, they have 30 days to respond as to whether they wish to initiate consultation regarding the project and specifically consultation regarding mitigation for any potential project impacts.

To date, UCLA has received one request (from the Torres Martinez Desert Cahuilla Indians) to be notified of projects occurring on campus; this request was received on May 2, 2016. On May 13, 2016, the University of California, Office of the President (UCOP) sent a letter to Michael Mirelez, Cultural Resource Coordinator of the Torres Martinez Desert Cahuilla Indians, advising Mr. Mirelez that, based on information from the NAHC, the Torres Martinez Desert Cahuilla Indians did not appear to be traditionally and culturally affiliated with any UC campus other than the University of California, Riverside.

Notwithstanding this correspondence from UCOP, UCLA subsequently sent notifications regarding three projects to the Torres Martinez Desert Cahuilla Indians pursuant to AB 52.[3] However, no response to these notifications was received. Therefore, UCLA sent a letter on October 31, 2016, to inform Mr. Mirelez that the Torres Martinez Desert Cahuilla Indians would no longer be notified of UCLA projects and to request confirmation of concurrence on UCLA's decision. No response has been received from Mr. Mirelez.

California Health and Safety Code (Sections 7050.5, 7051, and 7054)

These sections of the *California Health and Safety Code* collectively address the illegality of interference with human burial remains (except as allowed under applicable sections of the PRC). These sections also address the disposition of Native American burials in archaeological sites and protect such remains from disturbance, vandalism, or inadvertent destruction. Procedures to be implemented are established for (1) the discovery of Native American skeletal remains during construction of a project; (2) the treatment of the remains prior to, during, and after evaluation; and (3) reburial.

[3] Geffen Academy at UCLA, Margan Apartments Redevelopment Project, and Anderson School of Management Building Addition.

Section 7050.5 of the *California Health and Safety Code* specifically provides for the disposition of accidentally discovered human remains. Section 7050.5 states that, if human remains are found, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined the appropriate treatment and disposition of the human remains.

California Public Resources Code (Section 5097.98)

Section 5097.98 of the PRC states that, if remains are determined by the Coroner to be of Native American origin, the Coroner must notify the NAHC within 24 hours. When the NAHC receives this notification from a County Coroner, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land or his or her authorized representative, inspect the site of the remains and may recommend to the owner or the person responsible for the excavation work means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods. The descendants shall complete their inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. This regulation also requires that, upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendants regarding their recommendations and all reasonable options regarding their preferences for treatment. This section of the PRC has been incorporated into Section 15064.5(e) of the State CEQA Guidelines.

City of Los Angeles

As a state agency, the University of California is exempt from local regulation. For purposes of information only, brief descriptions of the two local designation programs in the City of Los Angeles are provided in the HREs prepared for Warren Hall and the UNEX building (included in Appendix E of this Draft SEIR. These designation programs include the City of Los Angeles Historic-Cultural Monument (HCM) and City of Los Angeles Historic Preservation Overlay Zones (HPOZ). With the exception of the UNEX building, there are no structures or buildings on the proposed housing sites currently listed as a City of Los Angeles HCM, and the sites are not within a City of Los Angeles HPOZ.

The Office of Historic Resources (OHR) within the City's Department of City Planning has conducted a citywide historic resource survey referred to as SurveyLA. This is a multi-year program conducted to survey, identify, and record potential historic resources in the City of Los Angeles, and is also discussed in the UNEX Building HRE. With respect to the proposed housing sites, although owned by UCLA and not subject to City of Los Angeles' local laws, the existing UNEX building was surveyed by SurveyLA as part of the Westwood Community Plan Area. As previously discussed, the Historic Resources Survey Report prepared by Historic Resources Group in March 2015 identified the UNEX building as individually eligible for listing in the CRHR with the status code of 3CS, and eligible as a City of Los Angeles HCM. However, further detailed evaluation conducted for the proposed Project indicates that the UNEX building is not a potentially eligible historic resource at a national, State, or local level (Page & Turnbull 2016).

4.4.3 PROJECT IMPACTS AND MITIGATION

Methods

Historical Resources

Significant effects upon historic structures or features are evaluated by determining the presence or absence of historic status with respect to the feature in question, and then determining the potential for development to affect the structure or feature directly or indirectly if it possesses historic status.

Archaeological Resources and Tribal Cultural Resources

While only a small portion of the campus has been subjected to systematic archaeological survey, extensive excavation associated with campus development has occurred and continues to occur. This analysis is based on review of existing literature, and results of previous studies and excavations.

Paleontological Resources

Surface examination often cannot reveal whether paleontological resources are present at a specific project location. However, as described above, extensive excavation associated with campus development has occurred and continues to occur. For the purposes of this EIR, as no other guidance for paleontological resources exists in CEQA, impacts on paleontological resources are assessed in terms of significance based upon whether these resources meet the definition of a "unique archaeological resource" found in Section 21083.2(g) of CEQA or a "historical resource" found in Section 15064.5 of the State CEQA Guidelines, and by general guidelines developed by the Society of Vertebrate Paleontology. Specifically, a fossil is considered significant if it, according to Criterion 1 of CEQA Section 21083.2(g), "[c]ontains information needed to answer important scientific research questions . . . " and/or according to Criterion D of Section 15064.5(a)(3) of the State CEQA Guidelines, "has yielded, or may be likely to yield, information important to prehistory".

Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, a project will normally have a significant adverse environmental impact on historic resources if it will:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 LRDP Amendment Final EIR

The following Programs, Practices, and Procedures (PPs) and Mitigation Measures (MMs) were adopted as part of the March 2009 LRDP Amendment Final EIR and are incorporated as part of the proposed Project and assumed in the analysis presented in this section. Note that changes to LRDP Final EIR PP 4.2-2(d) are shown in **bold-faced** and ~~strike-out~~ type; these changes have been made to reflect UCLA's current standard requirements for use of architectural coatings with reactivity-adjusted VOC content.

PP 4.4-1(a) *Structures outside the campus Historic Core that appear to have historic significance, or are over 45 years old, that may be directly or indirectly impacted by a proposed development project shall be reviewed by the campus and a qualified architectural historian or historic architect for eligibility for listing on the California Register of Historical Resources. If a structure is identified as eligible for listing in the California Register of Historical Resources, and it is determined that the project could have a significant adverse impact on the structure, the campus and a qualified historic architect shall consider design modifications, mitigation measures and/or alternatives that could minimize, avoid or substantially reduce the impacts, and consider whether and to what extent the project could comply with the* Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings *(Weeks and Grimmer 1995).*

PP 4.4-5 *In the event of the discovery of a burial, human bone, or suspected human bone, all excavation or grading in the vicinity of the find shall halt immediately, the area of the find shall be protected, and the University immediately shall notify the Los Angeles County Coroner of the find and comply with the provisions of Public Resources Code Section 5097 with respect to Native American involvement, burial treatment, and re-burial, if necessary.*

MM 4.4-2(a) *Prior to site preparation or grading activities, construction personnel shall be informed of the potential for encountering unique archaeological resources and taught how to identify these resources if encountered. This shall include the provision of written materials to familiarize personnel with the range of resources that might be expected, the type of activities that may result in impacts, and the legal framework of cultural resources protection. All construction personnel shall be instructed to stop work in the vicinity of a potential discovery until a qualified, non-University archaeologist assesses the significance of the find and implements appropriate measures to protect or scientifically remove the find. Construction personnel shall also be informed that unauthorized collection of archaeological resources is prohibited.*

MM 4.4-2(b) *Should archaeological resources be found during ground-disturbing activities for any project, a qualified Archaeologist shall first determine whether an archaeological resource uncovered during construction is a "unique archaeological resource" pursuant to Section 21083.2(g) of the Public Resources Code or a "historical resource" pursuant to Section 15064.5(a) of the CEQA Guidelines. If the archaeological resource is determined to be a "unique archaeological resource" or a "historical resource," the Archaeologist shall formulate a mitigation plan in consultation with the campus that satisfies the requirements of Section 21083.2 and 15064.5.*

If the Archaeologist determines that the archaeological resource is not a "unique archaeological resource" or "historical resource," s/he may record the site and submit the recordation form to the California Historic Resources Information System at the South Central Coastal Information Center.

The Archaeologist shall prepare a report of the results of any study prepared as part of a mitigation plan, following accepted professional practice. Copies of the report shall be submitted to the University and to the California Historic Resources Information System at the South Central Coastal Information Center.

MM 4.4-2(c) *Prior to initiation of construction activities for projects that require disturbance of native sediments/soils (as identified through site-specific geotechnical analysis), the campus shall retain a qualified non-University Archaeologist to observe grading activities and recover, catalogue, analyze, and report archaeological resources as necessary. The qualified Archaeologist shall submit to the Capital Programs University Representative, a written plan with procedures for archaeological resource monitoring. This plan shall include procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the resources as appropriate.* ***This plan shall also identify procedures for notification of the appropriate Native American Tribe if potential Native American artifacts are encountered. The Native American Monitor shall assist in the analysis of any Native American artifacts for identification as everyday life and/or religious or sacred items, cultural affiliation, temporal placement and function, as much as possible. The significance of Native American resources shall be evaluated in accordance with the provisions of CEQA and shall consider the religious beliefs, customs, and practices of the affected tribes. All items found in association with Native American human remains shall be considered grave goods or sacred in origin and subject to special handling.***

MM 4.4-3(a) *Prior to site preparation or grading activities, construction personnel shall be informed of the potential for encountering paleontological resources and taught how to identify these resources if encountered. This shall include the provision of written materials to familiarize personnel with the range of resources that might be expected; the type of activities that may result in impacts; and the legal framework of cultural resources protection. All construction personnel shall be instructed to stop work in the vicinity of a potential discovery until a qualified, non-University Paleontologist assesses the significance of the find and implements appropriate measures to protect or scientifically remove the find. Construction personnel shall also be informed that unauthorized collection of paleontological resources is prohibited.*

MM 4.4-3(b) *A qualified Paleontologist shall first determine whether a paleontological resource uncovered during construction meets the definition of a "unique archaeological resource" under Public Resources Code, Section 21083.2(g) or a "historical resource" under Section 15064.5 of the CEQA Guidelines. If the paleontological resource is determined to be a "unique archaeological resource" or a "historical resource", the Paleontologist shall formulate a Mitigation Plan in consultation with the campus that satisfies the requirements of Section 21083.2 of the CEQA Statutes.*

If the Paleontologist determines that the paleontological resource is not a unique resource, s/he may record the site and submit the recordation form to the Natural History Museum of Los Angeles County.

The Paleontologist shall prepare a report of the results of any study prepared as part of a mitigation plan, following accepted professional practice. Copies of the report shall be submitted to the University and to the Natural History Museum of Los Angeles County.

Impact Analysis

Threshold 4.1	Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

The analysis of Impact 4.4-1 in Section 4.4, Cultural Resources, of the March 2009 LRDP Amendment Final EIR concluded that, with adherence to PP 4.4-1(a) and PP 4.4-1(b), implementation of future development on campus would not result in a substantial adverse change in the significance of structures that have been designated as eligible or potentially eligible for listing on the NRHP or CRHR, resulting in a less than significant impact.

Table 4.4-1 in Section 4.4 of the Final EIR identifies the campus structures that have been identified as potentially eligible for listing in the NRHP and/or the CRHR. The majority of these structures are within the campus historic core in the Core zone. The Final EIR further acknowledges that, over time, additional campus structures may be eligible for listing in the CRHR. Each individual development project must consider historic resources in accordance with CEQA, pursuant to PP 4.4-1(a) and PP 4.4-1(b).

Section 15064.5(b) of the State CEQA Guidelines states the following:

> a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.
>
> (1) Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
>
> (2) The significance of an historical resource is materially impaired when a project:
>
> (A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its

historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

(3) Generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1997), Grimmer and Weeks, shall be considered as mitigated to a level of less than a significant impact on the historical resource.

As previously discussed, in compliance with PP 4.4-1(a), UCLA has reviewed the proposed housing sites to identify whether any potential historic resources on the site or in the vicinity may be impacted by implementing the proposed Project and to address potential direct and indirect impacts.

Direct Impacts

Direct impacts are generally those that will have a potential effect on a historic resource, such as damage to the resource; destruction of all or part of a property; deterioration due to neglect; and new additions that would adversely affect the historic integrity of the resource.

As identified previously in Section 4.4.1, Environmental Setting, with the exception of the Warren Hall site, there are no eligible or potentially eligible historic resources located at the proposed housing sites. The 1971 UNEX Building at the UNEX site had previously been identified as a potential historic resource through SurveyLA, but upon further evaluation, it was found not to be eligible for the CRHR (Page & Turnbull 2016). Therefore, implementation of the proposed housing developments at the Lot 15, UNEX, Bradley, and Drake Stadium sites would not result in a direct or indirect impact to a historic resource.

As presented in the Warren Hall HRE (included in Appendix E of this Draft SEIR), and summarized in Section 4.4.1, the Warren Hall building retains all aspects of integrity except for its setting, which has been significantly altered by the surrounding graduate student housing. Despite the site alterations, Warren Hall has integrity to convey its historic and architectural significance. As such, it is eligible for listing in the NRHP and CRHR under Criterion A/1 (Events) and Criterion C/3 (Architecture) at the local level of significance, and would be considered a historic resource under CEQA (Page & Turnbull 2017a).

Implementation of the proposed housing development on the Warren Hall site would require demolition of the existing buildings in their entirety. Because Warren Hall is considered a historic resource under CEQA, the demolition of this building would be considered a significant impact.

Historic resource mitigation measures are typically developed on a case-by-case basis, providing the opportunity to tailor them to the characteristics and the significance of the resource and the impacts to it. Common mitigation measures for demolition consist of documentation of the resource, typically to the standards of the Historic American Buildings Survey (HABS) and preparation of a salvage plan for significant architectural features and materials. While in some instances these mitigation measures are judged to reduce the level of adverse impacts to a less than significant level, they often do not alter the loss to community character and collective history. Section 15126.4(b)(2) of the State CEQA Guidelines is clear in this regard: "In some circumstances, documentation of an historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment would occur" (Page & Turnbull 2017b). Additional Mitigation Measure (MM) HIST-1 is recommended to document Warren Hall's significance and association with the Laboratory for Nuclear Medicine and Radiation Biology and as an example of Midcentury Modern institutional architecture.

Further, to commemorate Warren Hall's role in the history of nuclear medicine development, it is recommended that a publicly accessible interpretive program be developed (refer to additional MM HIST-2). The interpretive program would reflect the history of the Laboratory for Nuclear Medicine and Radiation Biology, which may include its precursor, the UCLA Atomic Energy Project and its association with the Atomic Energy Commission, as well as the medical and scientific achievements of the laboratory once it was housed at Warren Hall. The program would also include discussion of Warren Hall's architectural design as well as architects Neptune & Thomas.

Even with the implementation of MMs HIST-1 and HIST-2, adverse impacts to this historic resource would not be mitigated to a less than significant level, resulting in a significant and unavoidable impact. There are no feasible mitigation measures to reduce or avoid this impact.

Indirect Impacts

Based on the State CEQA Guidelines noted above, a proposed project can have a significant adverse impact if it changes the immediate surroundings of a historic resource so that the significance of the resource is "materially impaired." A historic resource's significance is materially impaired when it can no longer convey its significance that justify its eligibility as a historic resource; in other words, when it has lost its integrity. Integrity is the ability of a resource to convey its historic significance through its physical features and is defined by the National Park Service as "the authenticity of property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic period" (Page & Turnbull 2017b).

The National Park Service's *National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation* identifies seven aspects or qualities that in various combinations define integrity. These seven aspects are generally defined as follows (Page & Turnbull 2017b):

- **Location** is the place where the historic property was constructed.
- **Design** is the combination of elements that create the form, plans, space, structure and style of the property.
- **Setting** addresses the physical environment of the historic property inclusive of the landscape and spatial relationships of the building/s.

- **Materials** refer to the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form the historic property.
- **Workmanship** is the physical evidence of the crafts of a particular culture or people during any given period in history.
- **Feeling** is the property's expression of the aesthetic or historic sense of a particular period of time.
- **Association** is the direct link between an important historic event or person and a historic property.

For historic districts to retain integrity as a whole, the majority of the components that make up the district's historic character must possess integrity. In addition, the relationships among the district's components must be substantially unchanged since the period of significance.

Following is the analysis of potential indirect impacts to historic resources in the vicinity of the proposed housing sites (Page & Turnbull 2017b).

Lot 15 Site

The University Crest Residential Historic District (location A on Figure 4.4-1) is a potential historic district near the Lot 15 site. Identified by SurveyLA as eligible for listing in the NRHP, CRHR, and as a local historic district, the potential district is an early 20th century residential subdivision with one to two story single-family residences constructed between 1929 and 1959 in various Period Revival styles. Many homes are credited to well-known local architects, including J.R. Davidson, Wallace Neff, and Rudolph Schindler.

The potential district's eastern boundary is at Veteran Avenue, directly across from the UCLA campus and the Lot 15 site. The UCLA campus is behind fencing along this portion of Veteran Avenue, and the proposed development site is further set back from Veteran Avenue by a parking lot that is not currently visible from Veteran Avenue. The two buildings proposed for the Lot 15 site would be eight to ten levels and comparable in height to the student housing that currently exists around in the vicinity of the Lot 15 site. As the existing student housing is minimally visible from Veteran Avenue and the potential historic district, the proposed development at the Lot 15 site is likely to also be minimally visible from these vantage points. It would not have a material impact on the integrity of the potential University Crest Residential Historic District, nor would it be highly visible from the potential district with negligible impacts on integrity of setting or feeling. As such, the proposed development at the Lot 15 site would not have an indirect impact on nearby historic resources.

Warren Hall Site

Several known and potential historic resources are in the vicinity of the Warren Hall site. To the north are two apartment buildings on Strathmore Drive: the Richard Neutra-designed Strathmore Apartments (location B on Figure 4.4-1) that is listed in the NRHP and as an HCM, and the Phi Gamma Delta Fraternity House (location C on Figure 4.4-1) that SurveyLA found eligible for national, State, and local listing. To the south are two additional apartment buildings and a commercial building on Gayley Avenue: a Streamline Moderne apartment building at 931 S. Gayley Avenue (location D on Figure 4.4-1), the Spanish Colonial Revival style Gayley Terrace at 959 S. Gayley Avenue (location D on Figure 4.4-1), and the American Colonial Revival commercial building at 1015 S. Gayley Avenue (location F on Figure 4.4-1). Gayley Terrace is an HCM while the other two were found by SurveyLA to be eligible for national, State, and local

listing. West and down the hill from the Warren Hall site is the Los Angeles National Cemetery (location G on Figure 4.4-1), which is part of the West Los Angeles Veteran Administration Historic District that is listed in the NRHP.

The back of Streamline Moderne apartment building and Gayley Terrace share an alley with the existing Warren Hall building, which would become an access point for the new proposed development. Although these two properties are close to the Warren Hall site, they would not be physically impacted by the proposed development, nor would their integrity of location, design, materials, workmanship, feeling, or association be affected. The setting would change, as three new mid-rise buildings would replace the current low-rise Warren Hall. However, this part of Westwood Village is fully developed with various building types and heights and the proposed development would be consistent with the existing character of the surrounding urban fabric of the area. The change in setting from the development at the Warren Hall site is not expected to affect the setting of the Streamline Moderne apartment building, Gayley Terrace, or the commercial building further south on Gayley Avenue to the point that they would lose their historic integrity.

The other known and potential resources in the vicinity of the Warren Hall site are sufficiently far as not to be materially impaired by the proposed development. The new buildings would likely not be visible from Strathmore Apartments and the Phi Gamma Delta Fraternity House as the Warren Hall site is lower on the hillside and other developments obstruct the view between the sites.

The existing Warren Hall building is minimally visible from the Los Angeles National Cemetery, and the new housing constructed around Warren Hall in the early 2000s screen the development site from the cemetery. Although the new proposed buildings would be a few stories taller than the existing buildings, they would be behind the current student housing and would appear as part of the urban setting. Taller high-rise buildings are already visible from various parts of the cemetery, and the new development at the Warren Hall site will not significantly change the setting around the cemetery. Overall, the proposed development at the Warren Hall site is not expected to have indirect impacts on historic resources in its vicinity.

UNEX Site

The Streamline Moderne apartment building (location D on Figure 4.4-1) and Gayley Terrace (location E on Figure 4.4-1) are also in the vicinity of the UNEX site, as are three other resources: Fox Village Theatre at 959 S. Broxton Avenue (location H on Figure 4.4-1); Fox Bruin Theater at 926 S. Broxton Avenue (location I on Figure 4.4-1); and El Paseo, a Spanish Colonial Revival commercial building at 1001 S. Broxton Avenue (location J on Figure 4.4-1). The Fox Village Theatre and Fox Bruin Theater are listed as HCMs while 1001 S. Broxton Avenue was found by SurveyLA to be eligible for national, state, and local listing.

The proposed development at the UNEX site would replace the existing seven-story building with ~~three~~ one building~~s~~ of varying heights. One component of the proposed buildings ~~would be a low-rise at about three stories and one~~ would be similar to the existing building at about nine stories. The ~~third proposed~~ second building component would be about 20 stories tall. The current UNEX building is one of the more visibly tall buildings in this part of Westwood Village, and it is expected that the proposed development would be equally visible.

The 20-story building would introduce a high-rise where one does not currently exist, but other tall buildings dating from the mid-20th century to the early 21st century are found in Westwood Village. None of the known or potential historic resources are directly adjacent to the UNEX site, and while the new development would be visible from each of the resources, each is sufficiently distant from the UNEX site so that the new development would not materially impact any aspects

of their integrity. SurveyLA found Westwood Village itself does not retain sufficient historic integrity to be considered an eligible historic district.

Bradley Site

The Bradley site is currently a landscaped area at the western boundary of the UCLA campus and is located at the northeast corner of Gayley Avenue and Strathmore Avenue. At the northwest corner of the same intersection is a potential historic resource, the Beta Theta Pi Fraternity House at 581 S. Gayley Avenue (location K on Figure 4.4-1), which SurveyLA identified as eligible for national, State, and local listing for its Spanish Colonial Revival architecture. West, up the hill on Strathmore Drive, are three additional resources: the Mid-Century Modern University Lutheran Chapel at 10915 W. Strathmore Drive (location L on Figure 4.4-1); the Sheats Apartments by master architect John Lautner at 10919 W. Strathmore Drive (location M on Figure 4.4-1); and the Phi Kappa Sigma Fraternity House, a Mediterranean Revival building at 1093 W. Strathmore Drive (location N on Figure 4.4-1). The Sheats Apartments is an HCM, while the other two properties were identified by SurveyLA. The University Lutheran Chapel is eligible only for State and local listing as it was not yet 50 years old at the time of the survey.

Two additional resources were identified by SurveyLA slightly further from the Bradley site: the Spanish Colonial Revival-style Theta Xi Fraternity House at 629 S. Gayley Avenue (location O on Figure 4.4-1), and the Brutalist-style Hardman-Hanson Hall at 500 S. Landfair Avenue (location P on Figure 4.4-1).

The Bradley site has two mid-rise buildings proposed that would be seven to eight levels. These buildings are expected to be approximately equal in height with the University Lutheran Chapel. The conceptual site plans show an L-shaped building and a rectangular building places at an angle to the corner. Landscaped areas between the building massing allow the corner to retain some sense of openness directly across from the Beta Theta Pi Fraternity House and its large front lawn. The design avoids overwhelming the resource and materially impacting the setting aspect of its integrity while maintaining the building's visibility at the corner.

For the other known and potential historic resources in the vicinity of the Bradley site, they are generally sufficiently distant from the site so that the proposed development would not affect any aspects of their integrity. The new development would likely be visible to some degree from the identified resources, but will appear to be part of the area's urban fabric.

Drake Stadium Site

No known or potential historic resources are in the vicinity of the Drake Stadium site, so no indirect impacts to historic resources are expected.

Additional Project-Level Mitigation Measures

No direct or indirect impacts to historic resources would occur with implementation of the proposed housing projects at the Lot 15, UNEX, Bradley, or Drake Stadium sites. The following mitigation measures are recommended to reduce historic impacts resulting from demolition of the Warren Hall building.

Warren Hall Site Only

MM HIST-1 Prior to the demolition of Warren Hall at 900 Weyburn Place, the building shall be documented to the standards of the Historic American Building Survey (HABS) program. The documentation shall include the following:

- A written description and narrative report following the most recent HABS Guidelines for Historical Reports, Outline Format.
- Large format (4-inch by 5-inch or larger negative) photographs following the most recent HABS Photography Guidelines. Views shall include the setting; important site features; all exterior facades and wings, including the radiation facility and greenhouse; detailed views of significant exterior architectural features, such as the concrete screen, exterior window wall, and glazed connector with visible interior stair; and interior views of significant spaces and features like the "atrium" space in the entrance pavilion.
- A site plan showing Warren Hall's location in relationship to the setting and surrounding streets.
- A photo key using the site plan shall be included.
- Duplicates of historic photographs and drawings, if available.

A qualified professional who meets the requirements of the *Secretary of the Interior's Professional Qualifications Standards* for history, architectural history, or historic architecture, shall prepare the documentation. Upon completion, copies of the documentation materials shall be offered and sent to appropriate archives and repositories willing to accept the documentation, including the Southern California Information Center at California State University, Fullerton; UCLA Library, Special Collections; Los Angeles Public Library Central Library and/or local branch as appropriate; and local preservation organizations and historical societies that express interest.

MM HIST-2 To commemorate Warren Hall's role in the history of nuclear medicine development, a publicly accessible interpretive program shall be developed with the assistance of a qualified architectural historian or historic preservation professional who meets the Secretary of the Interior's Professional Qualifications Standards. The interpretive program shall reflect the history of the Laboratory for Nuclear Medicine and Radiation Biology, which may include its precursor, the UCLA Atomic Energy Project and its association with the Atomic Energy Commission, as well as the medical and scientific achievements of the laboratory once it was housed at Warren Hall. The program shall also include a discussion of Warren Hall's architectural design as well as architects Neptune & Thomas.

Creative solutions regarding medium and format of the interpretive program are encouraged, but all interpretive materials shall be accessible to the general public and displayed in a setting that is appropriate within the context of Warren Hall as well as open and inviting in nature (e.g., an exhibit at UCLA Library, Special Collections, a video documentary, an online website, an on-site display at the replacement development). Interpretive media shall include both text and graphics, which may include historic photographs, maps, architectural drawings, or other imagery.

The interpretative program shall be completed and available to the public prior to or upon completion of the proposed student project at the Warren Hall site.

Level of Significance After Mitigation

No substantial adverse change in the significance of a historical resource would occur at the Lot 15, UNEX, Bradley and Drake Stadium sites.

Implementation of the proposed student housing project at the Warren Hall site would cause a substantial adverse change in the significance of a historical resource, as defined in Section 15064.5 of the State CEQA Guidelines, resulting in a significant and unavoidable impact. No significant and unavoidable impacts to historic resources were identified in the March 2009 LRDP Amendment Final EIR. A Statement of Overriding Considerations will need to be adopted for this new significant impact.

Threshold 4.2	Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The analysis of Impact 4.4-2 in Section 4.4, Cultural Resources, of the March 2009 LRDP Amendment Final EIR concluded there would be less than significant impacts related to archaeological resources with implementation of MM 4.4-2(a) through MM 4.4-2(c). The majority of the campus is developed, and exposed ground consists of fill material or other earth that has been subject to previous disturbance for construction of existing structures and/or infrastructure. However, there is a potential to discover archaeological remains during excavation for future campus projects in areas containing native sediment and soils. As concluded in the Final EIR, the potential to encounter previously unidentified archaeological resources during construction is a potentially significant impact that would be reduced to a less than significant level with implementation of MM 4.4-2(a) through MM 4.4-2(c).

Lot 15 Site

Based on review of the Preliminary Geotechnical Investigation for the Lot 15 site and as further discussed in Section 4.5, Geology and Soils, of this Draft SEIR, exploratory borings indicate the project site is underlain by fill materials between 2 and 19 feet in depth; deeper fill materials may occur within other parts of the site that were not directly explored with soil borings. The fill is underlain by Pleistocene age older alluvium (Geocon West 2017). Excavations of at least two feet deep would be required for construction of the proposed Project; however, deeper excavations may occur in order to remove all existing artificial fill. Therefore, disturbance of native alluvial sediments may occur during grading and excavation activities at the Lot 15 Site.

Warren Hall Site

Based on review of the Preliminary Geotechnical Investigation for the Warren Hall site and as further discussed in Section 4.5, Geology and Soils, of this Draft SEIR, exploratory borings indicate the project site is underlain by fill materials up to five feet in depth; deeper or shallower fill materials may occur within other parts of the site that were not directly explored with soil borings. The fill is underlain by Pleistocene age older alluvium (Geocon West 2016a). Excavations of approximately 32 feet deep would be required for proposed construction on this site; therefore, disturbance of native alluvial sediments would occur during grading and excavation activities at the Warren Hall site.

UNEX Site

Based on review of the Preliminary Geotechnical Investigation for the UNEX site and as further discussed in Section 4.5, Geology and Soils, of this Draft SEIR, exploratory borings indicate the project area is underlain by fill materials up to four feet in depth; deeper fill materials may occur within other parts of the site that were not directly explored with soil borings. The fill is underlain by Pleistocene age older alluvium (Geocon West 2016b). Excavations of approximately 15 feet deep would be required for construction on the UNEX Site; therefore, disturbance of native alluvial sediments would occur during grading and excavation activities.

Bradley Site

Based on review of the Preliminary Geotechnical Investigation for the UNEX site and as further discussed in Section 4.5, Geology and Soils, of this Draft SEIR, exploratory borings indicate the project area is underlain by fill materials between four and ten feet in depth; deeper fill materials may occur within other parts of the site that were not directly explored with soil borings. The fill is underlain by Holocene and Pleistocene age alluvium (Geocon West 2016c). Excavations of approximately 40-feet deep would be required for proposed construction on the Bradley site; therefore, disturbance of native alluvial sediments would occur during grading and excavation activities.

Drake Stadium Site

As further discussed in Section 4.5, Geology and Soils, of this Draft SEIR, exploratory borings taken before construction of Drake Stadium indicate the site is underlain by fill materials up to 28 feet in depth (L. T. Evans 1966). Excavations are not expected to be required during construction; therefore, disturbance of native alluvial sediments would not occur during construction activities; and there would be no impact to archaeological resources.

Therefore, each of the proposed sites is underlain by various depths of artificial fill which is not suitable for future construction. With the exception of the Drake Stadium site, excavation and grading activities at each site are expected to disturb native alluvial sediments and, therefore, would have the potential to impact previously unidentified archaeological resources. Consistent with the analysis presented in the March 2009 LRDP Amendment Final EIR, this would be considered a potentially significant impact for the Lot 15, Warren Hall, UNEX and Bradley sites. The proposed Project incorporates MM 4.4-2(a), which requires an instructional program to assist construction personnel in identifying archaeological resources; MM 4.4-2(b), which describes procedures to be followed in the event that cultural resources are discovered; and MM 4.4-2(c), which requires that future projects that would occur on a site with native sediments/soils have a qualified Archaeological Monitor present during earth-disturbing activities and that additional provisions be made for any project where archaeological resources are identified. Accordingly, the proposed Project would result in a less than significant impact. This conclusion is consistent with the finding of the March 2009 LRDP Amendment Final EIR. No further evaluation of this issue is required in the Draft EIR.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would have a less than significant impact related to the potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines.

Threshold 4.3	Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

In January 2017, subsequent to preparation of the March 2009 LRDP Amendment Final EIR, updates to the State CEQA Guidelines were adopted, which included the addition of a Tribal Cultural Resources section.

As previously addressed under Threshold 4.1, one historic resource eligible for listing in the NRHP and CRHR (Warren Hall building) would be impacted by implementation of proposed development at the Warren Hall site. Warren Hall and other historic resources known to exist on or near the UCLA campus are structures/buildings. No tribal cultural resources, including tribal cultural resources listed or eligible for listing in the CRHR or in a local register of historical resources have ever been recovered or recorded on campus. Therefore, with respect to historic resources, no impact would result and no mitigation is required.

Further, based on Native American coordination that has previously been conducted by UCLA, and outreach conducted pursuant to AB 52, it is not anticipated that tribal cultural resources exist on the UCLA campus, including the project sites. However, as previously addressed under Threshold 4.2, excavation and grading at the Lot 15, Warren Hall, UNEX, and Bradley sites are expected to disturb native alluvial sediments and, therefore, would have the potential to impact previously unidentified tribal cultural resources. The potential to encounter previously unidentified tribal cultural resources during construction is a potentially significant impact that would be reduced to a less than significant level with implementation of March 2009 LRDP Amendment Final EIR MM 4.4-2(c), as modified to address inclusion of procedures to be taken by the project archaeologist if potential Native American artifacts are encountered.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required with incorporation of modified MM 4.4-2(c).

Level of Significance After Mitigation

The proposed Project would have a less than significant impact related to the potential to cause a substantial adverse change in the significance of a tribal cultural resource as defined in Section 21074 of the *California Public Resources Code*.

Threshold 4.4	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The analysis of Impact 4.4-3 in Section 4.4, Cultural Resources, of the March 2009 LRDP Amendment Final EIR concluded that there would be less than significant impacts related to paleontological resources with implementation of MM 4.4-3(a) and MM 4.4-3(b). No unique geological feature is known to exist and no fossils have been documented on campus. However, rock units identical to those that underlie the campus, including native alluvium, have yielded significant paleontological specimens in the nearby area that contributed to scientific understanding of the distant past. Accordingly, the rock units that underlie the campus are considered paleontologically sensitive. The Final EIR concluded that the potential to encounter previously unidentified paleontological resources during construction is a potentially significant impact that would be reduced to a less than significant level with implementation of MMs 4.4-3(a) and MM 4.4-3(b).

As discussed under Threshold 4.2 above, the project sites are underlain by artificial fill and native older alluvial sediments. Excavations at each site, with the exception of the Drake Stadium site, are expected to disturb native Pleistocene alluvial sediments and, therefore, would have the potential to impact paleontological resources, resulting in a potentially significant impact. The proposed housing projects incorporate MM 4.4-3(a), which requires an instructional program to assist construction personnel in identifying paleontological resources, and 4.4-3(b), which defines the requirements for review and recordation by a qualified Paleontologist of any paleontological resources encountered on a site. Accordingly, the proposed housing projects would result in a less than significant impact to paleontological resources, consistent with the findings of the March 2009 LRDP Amendment Final EIR. No further evaluation of this issue is required in the Draft EIR.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would have a less than significant related to the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Threshold 4.5	Would the project disturb any human remains, including those interred outside of formal cemeteries?

With implementation of PP 4.4-5, implementation of the remaining development allocation on campus was determined to have a less than significant impact related to potential disturbance of human remains (refer to the Initial Study included in Appendix A of the March 2009 LRDP Amendment Draft EIR). No archaeological materials, including human burials, have been discovered on campus. Although the potential still exists for such resources to be present and for excavation during construction activities at the Lot 15, Warren Hall, UNEX and Bradley sties to disturb these resources, the likelihood of discovering such resources is extremely low. However, PP 4.4-5 identifies procedures followed by UCLA in the event that human remains are discovered,

including compliance with State law, and is incorporated into the proposed Project. Consistent with the findings presented in the March 2009 LRDP Amendment Final EIR, this impact would be less than significant.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance After Mitigation

The proposed Project has a less than significant potential to disturb any human remains, including those interred outside formal cemeteries.

4.4.4 CUMULATIVE IMPACTS

With respect to historic resources, the University does not have specific guidelines for determining cumulative impacts to historic resources. A useful guide may be the *L.A. CEQA Thresholds Guide* used by the City of Los Angeles, which directs review of related projects that:

- Are located within the same NRHP district, Historic Preservation Overlay Zone (HPOZ), general area, neighborhood, or community or
- Involve resources with the same historical context or use (e.g., by the same architect or in the same period).

Therefore, the cumulative study area for the historic resources is the Westwood Village area; UCLA and Westwood Village have a high concentration of the Midcentury Modern institutional buildings that would be comparable to Warren Hall in terms of its architecture. The two other areas of significance, nuclear medicine and works of Thomas & Neptune, are not likely to be limited geographically, and there is no local catalogue of resources with similar significance, nor has there been a trend of recent projects that have affected resources related to either nuclear medicine or the Thomas & Neptune projects.

The analysis should determine the impact of the related projects and consider the cumulative impacts of the proposed and related projects as they relate to the population of resources that would remain. As discussed in Section 4.0, Introduction to the Environmental Analysis, there are several UCLA campus projects approved or under construction: Margan Apartments Redevelopment Project, Anderson School of Management Building Addition (over parking structure 5), and Mo Ostin Basketball Center (practice facility) (refer to Figure 4.4-1).

Other recent and proposed projects in Westwood identified in Table 4-1, City of Los Angeles List of Cumulative Projects, in Section 4.0, Introduction to the Environmental Analysis, of this Draft SEIR, that are relevant to the analysis of cumulative historic impacts include:

- **Westwood Hotel at 10955 West Wilshire Boulevard (Wilshire Gayley Project).** An existing one-story commercial building at the northwest corner of Gayley Avenue and Wilshire Boulevard was demolished in anticipation of development of a 29-story apartment/condo/hotel building. The demolished building was not identified as a potential historic resource in the project's environmental review.
- **Studio 11024 at 11024 West Strathmore Drive.** This is a recently completed project involving construction of a new six-story apartment building on a vacant lot, according to its environmental documents.

Warren Hall has an unusual historic context related to nuclear medicine research, and no proposed or related projects in the vicinity are known to affect other buildings related to nuclear medicine. As an example of Midcentury Modern institutional design, many other similar building types exist both on the UCLA campus and in the surrounding Westwood community. The proposed projects on the UCLA campus and in the Westwood area would not impact known Midcentury Modern institutional buildings, and cumulative impacts to this resource type is not anticipated. Works by the architectural firm Neptune & Thomas are found throughout Southern California, including in the San Gabriel Valley and San Diego. The surrounding proposed projects do not appear to affect buildings designed by the firm. With no related projects in the general area impacting buildings associated with nuclear medical research, Midcentury Modern institutional buildings, or projects by Neptune & Thomas, the demolition of Warren Hall as part of the proposed project would not result in cumulative impacts. Therefore, the proposed project would not result in cumulative impacts.

The geographic context for the analysis of cumulative archaeological, tribal cultural and paleontological resources impacts is the City of Los Angeles, which includes all cumulative growth within the City and development of the related projects discussed in Section 4.0, Introduction to the Analysis, of Draft SEIR. Development in the Los Angeles area would also require grading and excavation that could potentially affect archaeological, tribal cultural or paleontological resources, or human remains. The cumulative effect of these projects would contribute to the continued loss of subsurface cultural resources if these resources are not protected upon discovery. CEQA requirements for protecting archaeological and paleontological resources and human remains are applicable to development in the City of Los Angeles, as are local cultural resource protection ordinances. If subsurface cultural or tribal cultural resources are protected upon discovery as required by law, impacts to those resources would be less than significant. As indicated above, given the extremely low likelihood of encountering paleontological, archaeological, or tribal cultural resource deposits or human remains on the campus and the mitigation measures that will be imposed and enforced throughout construction, the contribution of potential impacts from campus development, including the proposed housing developments, to the cumulative destruction of subsurface cultural resources throughout Los Angeles would be less than significant. It is noted that the City of Los Angeles's *Citywide General Plan Framework* concludes that "loss and/or disturbance of known or unknown archaeological sites" throughout the City of Los Angeles is considered to be cumulatively significant (City of Los Angeles 2001). However, for the reasons discussed above, the contribution of the proposed Project to this impact is not cumulatively considerable and is thus less than significant.

4.4.5 REFERENCES

Geocon West, Inc. (Geocon). 2017 (January 18). Preliminary Geotechnical Investigation, Proposed Student Housing Development, UCLA – Lot 15, Los Angeles, California. Burbank, CA: Geocon.

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4.5 GEOLOGY AND SOILS

This section describes the existing geology, soils, and seismic conditions in the region and at each of the five proposed housing sites and evaluates the potential physical environmental effects related to seismic hazards and underlying soil characteristics that could impact site development. The primary sources used to prepare this section are listed below. Additional sources are cited herein and listed in Section 4.5.6, References. The recently prepared preliminary geotechnical investigations, listed below, are provided in Appendix F of this Draft Subsequent Environmental Impact Report (SEIR):

- Geocon West, Inc. 2017 (January 18). *Preliminary Geotechnical Investigation, Proposed Student Housing Development, UCLA – Lot 15, Los Angeles, California*. Burbank, CA: Geocon West;
- Geocon West, Inc. 2016a (December 23). *Preliminary Geotechnical Investigation, Proposed Student Housing Development, 900 Weyburn Place, Los Angeles, California*. Burbank, CA: Geocon West;
- Geocon West, Inc. 2016b (December 29). *Preliminary Geotechnical Investigation, Proposed Student Housing Development, 10995 Le Conte Avenue, Los Angeles, California*. Burbank, CA: Geocon West;
- Geocon West, Inc. 2016c (December 23). *Preliminary Geotechnical Investigation, Proposed Student Housing Development, Northeast Corner of Gayley Avenue and Strathmore Drive, Los Angeles, California*. Burbank, CA: Geocon West; and
- The analysis of campus-wide geology and soils presented in Section 4.5, Geology and Soils, in the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR, UCLA 2009).

It should be noted that the preliminary geotechnical investigations for the Lot 15, Warren Hall, UNEX and Bradley sites have been prepared to address the potential geologic hazards and geotechnical conditions that could impact site development and to provide preliminary recommendations for design and construction. As further outlined in this section, additional analyses will be required in order to provide comprehensive geotechnical recommendations for the Drake Stadium site. Relevant elements of the proposed Project related to geology and soils include proposed excavations ranging from approximately 15 feet to 40 feet in depth to accommodate the required preparation of underlying soils for foundation design and subterranean levels (where applicable) and construction of the proposed student housing structures and related improvements (e.g., utility connections, hardscape and lighting, retaining walls).

No comment letters related to geology, soils, or seismicity were received in response to the Notice of Preparation circulated for the proposed Project.

4.5.1 ENVIRONMENTAL SETTING

Section 4.5.1, Environmental Setting, of the March 2009 LRDP Amendment Final EIR, includes a detailed discussion of the existing geological setting, including regional and local geology, campus geologic materials, and regional and local faulting seismicity (seismic hazard zone report, campus seismic upgrade programs, and seismic hazards). Following is a summary of this information that is relevant to the proposed Project and information specific to the respective project sites.

Regional and Local Geology

Regionally, the campus is located in the Transverse Ranges geomorphic province near the boundary with the Peninsular Ranges geomorphic province. Locally, the campus is located on the southern alluvial plain of the Santa Monica Mountains in the Los Angeles Basin, which is at the northern end of the Peninsular Ranges Geomorphic Province. UCLA and surrounding areas lie on the gently rolling terrain of older alluvial deposits, which were originally deposited as alluvial fan material that resulted from erosion of the Santa Monica Mountain's southern slopes from sediment-loaded streams. The geologic materials underlying the project sites are discussed below.

Lot 15 Site

The Lot 15 site's Preliminary Geotechnical Investigation identifies that the site is underlain by artificial fill materials (to a maximum depth of 18 feet below ground surface [bgs]), and native Pleistocene-age older alluvium soils, Pleistocene-age debris flow deposits, and Miocene-age bedrock. The artificial fill encountered on the Lot 15 site generally consists of sand, silty sand, and sandy silt with some localized zones of abundant coarse gravel. The fill is characterized as dry to slightly moist, and firm to hard or medium dense to dense. The fill soils are likely the result of past grading or construction activities at the site, and deeper fill may exist between excavations and in other portions of the site that were not directly explored. The underlying older alluvium generally consists of sandy silt, silt, silty sand, and sand with varying amounts of fine to coarse gravel. The alluvial soils are primarily fine- to medium-grained, slightly moist, and dense or hard. Pleistocene-age debris flow deposits were locally encountered in borings previously drilled by Geocon West (in 2014) on the lower pad, and consist primarily of sand and silty sand that is fine- to medium-grained with abundant gravel. Gravel clasts are predominantly slate and, to a lesser extent, siltstone and sandstone derived from the Santa Monica Mountains to the north. Locally, well sorted sand beds are present within the debris flow deposits. Miocene-age, sedimentary bedrock units of the Monterey Formation were encountered at depths of 24, 25, and 21.8 feet bgs. The bedrock is predominantly siltstone interbedded with silty sandstone and clayey siltstone that can be characterized as fine-grained, massive to moderately bedded, thinly bedded, moderately to highly weathered, moderately to highly fractured, and locally faulted (Geocon West 2017).

Warren Hall Site

The Warren Hall site's Preliminary Geotechnical Investigation identifies that the site is underlain by artificial fill materials (to a maximum depth of five feet bgs) and native Pleistocene-age older alluvium soils. The artificial fill encountered on the Warren Hall site generally consists of sandy silt and silty sand, and is generally characterized as slightly moist and loose to medium dense or firm. The fill soils are likely related to past construction activities at the site, and deeper or shallower fill may exist on site between excavations or in other portions of the site that were not directly explored. The underlying older alluvium consists primarily of clayey silt, sandy silt, silty sand, and sand with silt, poorly graded sand, and well-graded sand with various amounts of gravel. The older alluvium is characterized as slightly moist to wet and firm to hard or medium dense to very dense (Geocon West 2016a).

UNEX Site

The UNEX site Preliminary Geotechnical Investigation identifies that the site is underlain by artificial fill materials (to a maximum depth of four feet bgs) and native Pleistocene-age older alluvium soils. The artificial fill encountered on the UNEX site generally consists of sand with silt and well-graded sand with gravel; it is characterized as slightly moist and medium dense to dense.

The fill is likely the result of past grading or construction activities at the site, and deeper fill may exist between excavations and in other portions of the site that were not directly explored. The underlying older alluvium consists primarily of interbedded clayey silt, sandy silt, clay, silty sand, and well-graded to poorly graded sand with gravel. The older alluvium is characterized as stiff to hard or medium dense to very dense, and slightly moist to wet (Geocon West 2016b).

Bradley Site

The Bradley site Preliminary Geotechnical Investigation identifies that the site is underlain by artificial fill materials at varying depths and native Holocene- and Pleistocene-age older alluvium soils. Artificial fill was encountered at depths between 4 and 10 feet bgs in 3 borings, and was encountered at a depth of 25 feet bgs in 1 boring (B3), located in the northeast portion of the site; the latter is likely associated with an existing underground utility. The artificial fill encountered on the Bradley site generally consists of sand, clayey silt, and silt with sand and gravel, and is characterized as slightly moist to moist and medium dense or soft to stiff. The fill is likely the result of past grading or construction activities at the site, and deeper fill may exist between excavations and in other portions of the site that were not directly explored. The underlying alluvium generally consists of sandy silt, silty sand, clayey silt, and silt with sand and varying amounts of fine to coarse gravel. The alluvial soils are primarily fine- to medium-grained, slightly moist to wet and medium dense to very dense or stiff to hard. (Geocon West, Inc. 2016c)

Drake Stadium Site

Previous geotechnical reports prepared for construction of Drake Stadium indicate the area was underlain by fill materials and native soils prior to the stadium's construction (Evans 1966). The Drake Stadium's pre-construction geotechnical documentation was reviewed primarily to assess the underlying geologic materials and potential constraints. As required by the campus Program, Practice and Procedure (PP) 4.5-1(a) from the March 2009 Long Range Development Plan (LRDP) Amendment Final EIR, further geotechnical analyses will be required to implement the proposed housing project at the Drake Stadium site.

Topography

Lot 15 Site

The Lot 15 site consists two roughly level pads (referred to herein as the upper pad and lower pad) separated by an approximate 15-foot-high, 1:1¼ (horizontal to vertical [H:V] gradient) south-facing slope. A south-facing 5- to 10-foot-high, 1¾:1 to 2:1 (H:V) graded slope is present along the northern boundary of the upper pad, and a west-facing approximate 5- to 20-foot-high, 2:1 (H:V) graded slope is present along a majority of the eastern site boundary that ascends to the paved Southern Regional Library access road. An approximate 5- to 25-foot-high, 2:1 (H:V) graded slope descends from the southwestern, southern, and southeastern portions of the lower pad to the Southern Regional Library access road below.

Topography at the site has been altered by past grading associated with construction of the current site uses. Generally, the upper pad elevation is approximately 512 to 513 feet above mean sea level (msl), and the lower pad elevation is approximately 496 to 497 feet above msl. There is an approximate 15- to 16-foot elevation difference between the upper and lower pads.

Warren Hall Site

The Warren Hall site is a rectangular-shaped parcel occupied by one- and two-story structures and surface parking. Elevations at the site range from approximately 390 feet above msl in the

northeast corner to approximately 360 feet above msl in the southwest corner. The site slopes to the southwest with a maximum elevation difference across the site of approximately 30 feet.

UNEX Site

The UNEX site is an irregular pentagon-shaped parcel occupied by the eight-story UCLA Extension structure and surface parking. Elevations at the site range from approximately 378 feet above msl at the top of the slope in the northern portion of the site to approximately 340 feet above msl in the southeast corner. The site slopes to the south.

Bradley Site

The Bradley site is an irregularly-shaped, undeveloped parcel currently occupied by a grassy knoll. Elevations at the site range from approximately 401 feet above msl along the northern site boundary to approximately 368 feet above msl adjacent to Strathmore Drive, along the southeastern site boundary. The site slopes gently to the east, west, and south at gradients of 4:1 (H:V) or less.

Drake Stadium Site

The Drake Stadium site is a slightly curved rectangular-shaped parcel abutting the western end of the Drake Track and Field Stadium, and occupied by the stadium concourse and dense vegetation. The elevation the concourse level is approximately 420 feet above msl. Elevations of the band of vegetation paralleling Charles E. Young Drive West range from approximately 420 feet above msl to approximately 442 feet above msl.

Faulting and Seismicity

Faults

Regionally, the UCLA campus lies within a seismically active area bound by two important faults in the Santa Monica Fault Zone, which contains the active Malibu Coast/Santa Monica/ Raymond/Sierra Madre/Cucamonga Fault Zone and the active Newport-Inglewood Fault. As with most areas of Southern California, the UCLA campus has experienced moderate to occasional high-intensity ground shaking from a major earthquake on active regional faults in the area. The closest surface trace of a known active fault to the campus is the Santa Monica Fault Zone, located from approximately 1.6 to 0.9 miles to the south of the project sites. The closest known potentially active[1] fault is the western segment of the Hollywood Fault, which is mapped as traversing the UCLA campus; however, there is no evidence to date of active faulting on the western segment of this fault. Based on a previous (2014) fault rupture hazard investigation performed by Geocon West, the Hollywood Fault's western segment is likely located south of the Lot 15 site and north of the Southern Regional Library (Geocon West 2017), located approximately 400 feet to the south of the Lot 15 construction boundary at the nearest points. However, there are no known active or potentially active faults that underlie the project sites, nor are the project sites located in an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act of 1994.

In addition to the Santa Monica Fault Zone, other active faults in the campus vicinity include the Newport-Inglewood Fault Zone, segments of the Hollywood Fault, the Malibu Coast Fault, the Raymond Fault, the Verdugo Fault, and the Palos Verdes Hills Fault, located from approximately

[1] An active fault is defined as having had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement.

1.8 to 17 miles from the sites. The active San Andreas Fault Zone is located approximately 38 miles from the campus. Other nearby potentially active faults are the Overland Fault, the Charnock Fault, and the MacArthur Park Fault, located from approximately 2.4 to 9.8 miles from the sites. Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3.0 kilometers. The October 1, 1987, moment magnitude (Mw) 5.9 Whittier Narrows Earthquake and the January 17, 1994, Mw 6.7 Northridge Earthquake were a result of movement on the Puente Hills Blind Thrust and the Northridge Thrust, respectively. The Northridge Earthquake was the strongest event (Richter magnitude 6.7) in recent history near the campus; the epicenter of this event was approximately 12 miles north of the campus. These thrust faults and others in the Los Angeles area are not exposed at the surface and do not present a potential surface fault rupture hazard at the sites; however, these deep thrust faults are considered active features capable of generating future earthquakes that could result in moderate to significant ground shaking at the sites.

Seismic Hazards

The primary seismic hazard anticipated at the project sites is moderate to strong seismic ground shaking. The preliminary geotechnical investigations prepared for the proposed housing sites included a site-specific ground motion hazard (i.e., seismic) analysis consistent with the 2016 California Building Code (CBC) and ASCE 7-10 (American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures), using the EZFrisk program (program 7.65) in conjunction with data from the U.S. Seismic Design Maps applications provided by the U.S. Geological Survey. This analysis results in development of site-specific seismic design parameters and peak ground acceleration for the Maximum Considered Earthquake (MCEG), referred to as PGA_M and measured as a proportion of the force of gravity (i.e., 0.925 g is 92.5 percent of the force of gravity). Table 4.5-1 summarizes the PGA_M calculated for each of the sites.

TABLE 4.5-1
SITE-SPECIFIC PEAK GROUND ACCELERATIONS

Site	Peak Site Acceleration for Maximum Considered Earthquake (g)
Lot 15	0.925
Warren Hall	0.905
UNEX	0.908
Bradley	0.897
Drake Stadium[a]	0.897

g: proportion of gravity; UNEX: University Extension Building; PGA_M: peak ground acceleration for the Maximum Considered Earthquake

[a] The PGA_M for the Drake Stadium site has not yet been calculated; however, due to proximity it is expected to be similar to the Bradley site.

Source: Geocon West 2017, 2016a, 2016b, and 2016c.

Secondary seismic effects of strong ground shaking evaluated for the project area include liquefaction and landslides, which are discussed in the impact analysis below, as applicable. In summary, the five housing sites are not identified on the California Geological Survey's (CGS) Seismic Hazard Zone Map as susceptible to liquefaction hazards. The Lot 15, Warren Hall, UNEX, and Bradley sites are not identified as susceptible to landslide hazards; however, the Drake Stadium site is in a landslide hazard area.

Groundwater

Lot 15 Site

Review of the Seismic Hazard Zone Report for the Beverly Hills Quadrangle indicates that historic groundwater level information is not available for the Lot 15 site and immediate vicinity (CGS 1998). Groundwater was not encountered during Geocon West's 2016 field explorations, drilled to a maximum depth of 40.5 feet bgs. Additionally, groundwater was not encountered in previous explorations drilled in 2014 by Geocon West to a maximum depth of 65 feet bgs (Geocon West 2017).

Warren Hall Site

Review of the Seismic Hazard Zone Report for the Beverly Hills Quadrangle indicates that the historic highest groundwater level in the Warren Hill area is approximately 30 feet bgs (CGS 1999). Groundwater was encountered in boring B1 drilled on November 2, 2016, at a depth of 60.7 feet bgs (Geocon West 2016a).

UNEX Site

Review of the Seismic Hazard Zone Report for the Beverly Hills Quadrangle indicates that the historic highest groundwater level in the UNEX area is approximately 35 feet bgs (CGS 1999). Groundwater was encountered in boring B2 at a depth of 47.2 feet bgs (Geocon West 2016b).

Bradley Site

Review of the Seismic Hazard Zone Report for the Beverly Hills Quadrangle indicates that the historic highest groundwater level in the Bradley area is approximately 40 feet or greater bgs. Groundwater seepage was encountered in borings B1 and B4 at elevations of 335 feet above msl and 366 feet above msl, or 37 feet bgs and 30 feet bgs, respectively (Geocon West 2016c).

Drake Stadium Site

Review of the Seismic Hazard Zone Report for the Beverly Hills Quadrangle indicates that historic groundwater level information is not available for the Drake Stadium site and its immediate vicinity (CGS 1998). As demonstrated by the results of the geotechnical investigations summarized above, groundwater levels across the campus vary, but are generally at depths of at least 30 feet bgs.

4.5.2 REGULATORY FRAMEWORK

Section 4.5 of the March 2009 LRDP Amendment Final EIR provides a complete discussion of the regulatory framework for the analysis of geology and soils. The following discussion focuses on regulatory information presented in the Final EIR that has been updated since March 2009 and/or that is particularly relevant to the proposed Project.

State

California Building Code

The State of California provides a minimum standard for building design through the California Building Code (CBC), which includes structural and seismic safety requirements. The California Building Code (CBC) is promulgated under *California Code of Regulations* (CCR), Title 24,

Parts 1 through 12 (also known as the "California Building Standards Code") and is administered by the California Building Standards Commission (BSC). The national model code standards (IBC) adopted into Title 24 apply to all occupancies in California except for modifications adopted by State agencies and local governing bodies. The current version of the CBC is the 2016 triennial edition (2016 CBC), which incorporates the 2015 IBC. The 2016 CBC became effective January 1, 2017. UCLA would construct new structures in a manner that conforms with, or is more stringent than, the 2016 CBC requirements.

University Seismic Safety Policy

The University of California has adopted a "Seismic Safety Policy" (policy), most recently updated in May 2017. This establishes that University policy is "to the extent feasible by present earthquake engineering practice, to provide an acceptable level of earthquake safety for students, employees, and the public who occupy University building and other facilities and leased facilities" (UC 2017). The level of safety is also defined in the University policy. The policy addresses the following 12 points (UC 2017):

- **Seismic Advisory Board.** Provides guidance to the University on seismic design, risk, and rehabilitation associated with University facilities and leased facilities. The Seismic Advisory Board's responsibilities include assessing seismic risk, advising on seismic priorities, reviewing new building and rehabilitation plans, and providing policy revision recommendations.
- **Survey of Existing University Facilities.** Engage Consulting Structural Engineers in examining existing University facilities and report on the adequacy of resistance of University facilities to seismic forces, based on conformance with seismic provisions of the California Building Code for existing buildings, the engineers' professional evaluations with respect to Appendix A of the policy, and identification of potential falling hazards.
- **Seismic Risk Model.** Maintain a model for consistent evaluation of seismic risk in University facilities and, for facilities identified with deficiencies, consider alternatives to continued use and occupancy of the facilities and develop a plan for rehabilitation in accordance with Appendix C of the policy.
- **Program for Abatement of Seismic Hazards.** Establish priorities for seismic rehabilitation projects in accordance with the policy and develop a program for the identification and temporary and permanent correction of seismic hazards in existing facilities.
- **Seismic Rehabilitation Standards.** Provide an acceptable level of earthquake safety based on the protection of life and prevention of personal injury in accordance with the CBC and current practice of earthquake engineering for existing buildings and other structures.
- **Post-Earthquake Response.** Maintain an emergency response plan at each campus or University location for use in the event of a damaging earthquake. This section sets standards for this plan.
- **Standards for New Construction and Renovation.** Comply with the current seismic provisions of the CBC, for the design and construction of new or existing buildings, and with University policies.
- **Standards for Acquisition by Purchase or other Title Transfer.** Have a minimum seismic performance level, depending on occupancy, as defined in the

policy for each building and other facility acquired by purchase or other title transfer, and subsequent University occupancy.

- **Standards for Leased Facilities.** Have a minimum seismic performance level, depending on occupancy, as defined in the policy for each building and other facility leased by the University.
- **Seismic Review.** Require a seismic review by a Consulting Structural Engineer prior to acquisition, title transfer, or lease in accordance with the policy.
- **Special Considerations.** Consider and/or require the following items as defined in the policy: geotechnical investigations, deferred approvals or multiple design packages, pre-engineered structures, and ground leases.
- **Provisional Use Authorization.** Authorize provisional use for a leased facility that does not meet the foregoing requirements under limited conditions, as defined in the policy.

4.5.3 PROJECT IMPACTS AND MITIGATION

Methods

The site-specific Preliminary Geotechnical Investigations prepared for the Lot 15, Warren Hall, UNEX, and Bradley sites each included site reconnaissance; field exploration through soil borings and percolation testing (except at the Lot 15 site); laboratory testing on selected soil samples to determine pertinent physical and chemical properties; engineering analysis; and preparation of the report. The intent of the Preliminary Geotechnical Investigations is to address potential geologic hazards and geotechnical conditions that could impact site development to determine whether the proposed housing projects can be developed as proposed from a geotechnical perspective based on these findings, provided the preliminary recommendations for design and construction presented in each report are implemented. For the Drake Stadium site, the original foundation investigation prepared for the stadium facility was reviewed. This information, in combination with the findings of the recent geotechnical investigations, information from the March 2009 LRDP Amendment Final EIR, and publicly available geologic information, was used to infer the geologic conditions and potential constraints for purposes of this Draft SEIR analysis.

Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, a project will normally have a significant adverse environmental impact related to geology and soils if it will:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
    - Strong seismic ground shaking,
    - Seismic-related ground failure, including liquefaction.
    - Landslides.
- Result in substantial soil erosion or loss of topsoil.

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Campus Programs, Practices, and Procedures Carried Forward from the March 2009 LRDP Amendment Final EIR

The following Programs, Practices, and Procedures (PPs), which were adopted as part of the March 2009 LRDP Amendment Final EIR, are applicable to the proposed Project and are therefore incorporated as part of the proposed Project and assumed in the analysis presented in this section. Note that changes to LRDP Final EIR PP 4.2-2(d) are shown in **bold-faced** and ~~strike-out~~ type; these changes have been made to reflect updated versions of both the California Building Code and the University Policy on Seismic Safety.

PP 4.5-1(a) *During project-specific building design, a site-specific geotechnical study shall be conducted under the direct supervision of a California Registered Engineering Geologist or licensed Geotechnical Engineer to assess detailed seismic, geological, soil, and groundwater conditions at each construction site and develop recommendations to prevent or abate any identified hazards in accordance with the requirements of the* ***applicable****~~2007~~ California Building Code* ***in effect at the time of construction****. Recommendations from the site-specific geotechnical study shall be included in the grading plans and/or building design specifications for each project. The study shall follow applicable recommendations of CGS Special Publication 117 and shall include, but not necessarily be limited to:*

- *Determination of the locations of any suspected fault traces and anticipated ground acceleration at the building site;*
- *Potential for displacement caused by seismically induced shaking, fault/ground surface rupture, liquefaction, differential soil settlement, expansive and compressible soils, landsliding, or other earth movements or soil constraints;*
- *Evaluation of depth to groundwater.*

PP 4.5-1(c) *The campus shall continue to comply with the University Policy on Seismic Safety* ***effective*** *~~adopted~~ on ~~January 17, 1995~~****May 19, 2017*** *or with any subsequent revision to the policy that provides an equivalent or higher level of protection with respect to seismic hazards.*

PP 4.5-1(d) *Development projects under the LRDP Amendment shall continue to be subject to structural peer review; following this review, any site-specific geotechnical study recommendations, including any recommendations added as a result of the peer review, shall be incorporated in the project design, as appropriate.*

In addition, PP 4.7-1 and MM 4.7-1 presented in Section 4.8, Hydrology and Water Quality, of this Draft SEIR and below are also incorporated into the proposed Project.

PP 4.7-1 *Construction and operation of projects on campus shall comply with requirements and water quality standards set forth within current NPDES Permit regulations (Phase I and Phase II) at the time of project approval. Pursuant to Phase I permit requirements, UCLA shall develop a Storm Water Pollution Prevention Plan (SWPPP) that incorporates Best Management Practices (BMPs) for reducing or eliminating construction-related and post-construction pollutants in site runoff**, including but limited to the BMPs listed in MM 4.7-1**.*

MM 4.7-1 *Best Management Practices (BMPs) shall be implemented for individual development projects, to the extent required by State law, to ensure compliance is maintained with all applicable NPDES requirements at the time of project construction. UCLA shall utilize BMPs as appropriate and feasible to comply with and/or exceed the current requirements under the NPDES program. BMPs that may be implemented include, but are not limited to, the following:*

Non-Structural/Structural

- *Landscape Maintenance*
- *Catch Basin Stenciling and Clean-out*
- *Efficient Irrigation Practices*
- *Litter Control*
- *Fertilizer Management*
- *Public Education*
- *Efficient Irrigation*
- *Permanent Vegetative Controls*
- *Runoff – Minimizing Landscape Design*

Treatment Control BMPs (to minimize storm water pollutants of concern for Ballona Creek – Sediment, Bacteria/Viruses, Toxicity, Trash, and Metals):

- *Vegetated Swale(s) – An open, shallow channel with vegetation covering side slopes and the bottom.*
- *Bioretention – A basin that functions as a soil and plant-based filtration device that removes pollutants through a variety of physical, biological, and chemical treatment processes.*
- *Turf Block – A grass area that has a structural component which allows it to be used in drive aisles and parking lots.*
- *Drain Inserts – A manufactured filter placed in a drop inlet to remove sediment and debris.*

Impact Analysis

Threshold 5.1	Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

As identified in the Initial Study prepared for the March 2009 LRDP Amendment Draft EIR, the UCLA campus is not located within an Alquist-Priolo Earthquake Fault Zone and no known active or potentially active faults traverse the campus (UCLA 2009).

The preliminary geotechnical investigations for the Lot 15, Warren Hall, UNEX, and Bradley sites determined that the sites are not within an Alquist-Priolo Earthquake Fault Zone or a City of Los Angeles-designated Preliminary Fault Rupture Study Area for surface fault rupture hazards (Geocon West 2017, 2016a, 2016b, 2016c). Further, as concluded in the March 2009 LRDP Amendment Final EIR and based on review of the Earthquake Zones of Required Investigation map, which shows the location of both Alquist-Priolo Earthquake Fault Zones and Seismic Hazard Zones for the Beverly Hills Quadrangle, there are no Alquist-Priolo Fault Zones or other known fault traces traversing or near the Drake Stadium site (UCLA 2009; CGS 1999, 1986).

As discussed above, based on the 2014 fault rupture hazard investigation performed by Geocon West (subsequent to preparation of the March 2009 LRDP Amendment Final EIR), the Hollywood Fault's western segment is likely located south of the Lot 15 site and north of the Southern Regional Library (Geocon West 2017); specifically, the fault segment is located approximately 400 feet to the south of the Lot 15 construction boundary at the nearest points. However, there are no active or potentially active faults with the potential for surface fault rupture known to pass directly beneath the five sites, and the potential for surface rupture due to faulting occurring beneath the sites during the design life of the proposed development is considered low (UCLA 2009; Geocon West 2017, 2016a, 2016b, 2016c). Therefore, consistent with the findings of the Initial Study for the March 2009 LRDP Amendment Draft EIR, there would be less than significant impacts from the risk of surface fault rupture at any of the five housing sites.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would result in a less than significant impact related to surface rupture of a known earthquake fault.

Threshold 5.2	Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
	ii) Strong seismic ground shaking?
	iii) Seismic-related ground failure, including liquefaction?
	iv) Landslides?

The analysis of Impacts 4.5-1 in Section 4.5, Geology and Soils, of the March 2009 LRDP Amendment Final EIR determined that, with implementation of PPs 4.5-1(a) through 4.5-1(d), there would be less than significant impacts related to strong seismic ground shaking or seismic-related hazards. As noted above, only PPs 4.5-1(a), 4.5-1(c), and 4.5-1(d) are applicable to the proposed Project.

Strong Ground Shaking

As noted above, Preliminary Geotechnical Investigations have been conducted for the Lot 15, Warren Hall, UNEX, and Bradley sites, and site-specific studies will be prepared for these four sites and the Drake Stadium site as part of project-specific building design, as necessary. The primary geologic hazard across the campus is moderate to strong ground motion (i.e., acceleration) caused by an earthquake on any of the active or potentially active local and regional faults. Therefore, the proposed structures would be susceptible to moderate to strong, seismically induced ground shaking during the life of the Project. Site-specific ground motion hazard analyses were performed as part of the Preliminary Geotechnical Investigations. The peak ground acceleration for the Maximum Considered Earthquake is summarized above in Table 4.5-1. As noted above, the ground motion hazard at the Drake Stadium site is expected to be similar to the nearby Bradley site. The calculated PGA_M ranges from 0.897 g to 0.925 g (Geocon West 2017, 2016a, 2016b, 2017c).

The Preliminary Geotechnical Investigations have concluded that the Lot 15, Warren Hall, UNEX, and Bradley projects are feasible from a geotechnical engineering perspective, and identified geotechnical constraints can be mitigated with application of the 2016 CBC and current engineering practices as prescribed in the Preliminary and all future site-specific Geotechnical Investigations. This is consistent with the finding of the March 2009 LRDP Amendment Final EIR and all geotechnical studies prepared subsequent to the Final EIR for all projects on and near campus. The site-specific PGA and other seismic parameters will be calculated at the Drake Stadium site as part of the future design process at this site, consistent with March 2009 LRDP Amendment Final EIR PP 4.5-1(a). The proposed housing projects, including the Drake Stadium site, incorporate PP 4.5-1(d), and designs and specifications would incorporate all existing and future recommendations for site preparation and seismic design including based on preliminary and subsequent geotechnical investigation. For the Lot 15, Warren Hall, UNEX, and Bradley site this includes, but is not limited to, recommendations described in MM GEO-1 (presented below), which is a project-level mitigation measure that applies to the Lot 15, Warren Hall, UNEX, and Bradley sites to ensure implementation of the recommendations generated from the Preliminary Geotechnical Investigations (as required by PP 4.5-1[a] and PP 4.5-1[d]).

Liquefaction

Liquefaction involves a sudden loss in strength of a saturated, cohesionless soil; it is typically caused by ground-shaking activities associated with shock or strain and results in temporary transformation of the soil to a fluid mass. The five housing sites are not identified on the CGS Seismic Hazard Zone Map as susceptible to liquefaction (Geocon West 2017, 2016a, 2016b, 2016c; CGS 1986, 1999). Based on this combined with the underlying geologic units and depth

to groundwater, Geocon West concluded that the potential for liquefaction and associated ground deformations are considered very low for the Lot 15, Warren Hill, UNEX, and Bradley sites. Geocon West states that, once proposed building loads become available and elevations are established, additional analyses would be required to evaluate the anticipated total and differential settlements between the foundation elements, and any additional recommendations will be provided under separate cover (Geocon West 2017, 2016a, 2016b, 2016c). Based on the results of Geocon West's preliminary geotechnical investigations, results of past geotechnical reports for on-campus development, and review of CGS data, it is expected that the Drake Stadium site would also have a very low potential for liquefaction. There would be less than significant impacts related liquefaction.

Landslides

The Lot 15, Warren Hall, UNEX, and Bradley sites are not identified on the CGS Seismic Hazard Zone Map as susceptible to landslides, nor are they within a City-designated Hillside Ordinance Area (CGS 1998). There are no known landslides near these sites, nor are the sites in the path of any known or potential landslide. Therefore, Geocon West concludes the potential for slope stability hazards to adversely affect the proposed development of these sites is considered low (Geocon West 2017, 2016a, 2016b, 2016c). There would be less than significant impacts related to landslides associated with these four sites.

As identified on Figure 4.5-3, Potential Seismic Hazard Zones, of the March 2009 LRDP Amendment Final EIR, and review of the CGS Seismic Hazard Zone Map (CGS 1986, 1999), the Drake Stadium site is identified within a potential landslide hazard area (an area susceptible to landslide during an earthquake). The Drake Stadium site is not identified within a City-designated Hillside Ordinance Area (City of Los Angeles 2017). The intent of identifying potential liquefaction and landslide hazard zones is for this information to be utilized as a planning tool and prompt a site-specific investigation. Slopes that are included in a potential earthquake-induced landslide zone are not necessarily susceptible to earthquake-induced landslides. It only means that a site-specific geotechnical investigation of the slope is necessary to confirm or disprove that the specific slope would be susceptible to earthquake-induced landslides. Slope stability, including landslide risk, and appropriate geotechnical recommendations would be part of the required geotechnical studies for the proposed housing development at the Drake Stadium site, as further discussed below.

With incorporation of relevant March 2009 LRDP Amendment Final EIR PPs [i.e., PPs 4.5-1(a), 4.5-1(c), and 4.5-1(d)], potential impacts related to ground shaking and secondary seismic hazards (e.g., liquefaction and landslides) would be less than significant. Although not required to mitigate a significant impact, new MM GEO-1 is has been developed for the Lot 15, Warren Hall, UNEX, and Bradley sites to ensure that recommendations from the Preliminary Geotechnical Investigations and all future site-specific geotechnical investigations, including peer review, are included in the final building design for these four housing sites. This mitigation measure is also provided to apprise the public of the types of site-specific recommendations, if available, generated for building projects based on implementation of PP 4.5-1(a) and is not required to reduce a significant impact. In summary, these potential impacts would be less than significant because the proposed housing projects include (1) recommendations from all geotechnical investigations (PP 4.5-1[a] and MM GEO-1); (2) compliance with the applicable CBC (required by PP 4.5-1[a]); (3) PP 4.5-1(c), which requires compliance with the University Policy on Seismic Safety; and (4) PP 4.5-1(d), which requires structural peer review (i.e., project-specific structural designs to confirm and validate design appropriateness in accordance with regulatory requirements) and incorporation of peer review recommendations into project design. The less than significant impact is consistent with the findings of the March 2009 LRDP Amendment Final EIR.

Additional Project-Level Mitigation Measures

Lot 15, Warren Hall, UNEX, and Bradley Sites

No significant impacts would result with incorporation of identified PPs and no mitigation is required; however, MM GEO-1 has been developed for the identified housing projects to ensure that recommendations from the existing Preliminary Geotechnical Investigations are included in the project designs (consistent with the requirements outlined in March 2009 LRDP Amendment Final EIR PP 4.5-1[a] and PP 4.5-1[d]).

MM GEO-1 Prior to approval of final building designs for the Lot 15, Warren Hall, UNEX, and Bradley Student Housing Projects, a qualified Engineer shall review the final designs to verify that all geotechnical recommendations provided in the Preliminary and all subsequent site-specific Geotechnical Investigations for the project sites have been fully and appropriately incorporated. At a minimum, the recommendations of the following shall be incorporated: *Preliminary Geotechnical Investigation, Proposed Student Housing Development, UCLA – Lot 15, Los Angeles, California* (dated January 18, 2017 and prepared by Geocon West); *Preliminary Geotechnical Investigation, Proposed Student Housing Development, 900 Weyburn Place, Los Angeles, California* (dated December 23, 2016 and prepared by Geocon West); *Preliminary Geotechnical Investigation, Proposed Student Housing Development, 10995 Le Conte Avenue, Los Angeles, California* (dated December 29, 2016 and prepared by Geocon West); and *Preliminary Geotechnical Investigation, Proposed Student Housing Development, Northeast Corner of Gayley Avenue and Strathmore Drive, Los Angeles, California* (dated December 29, 2016 and prepared by Geocon West). The recommendations for the Lot 15, Warren Hall, UNEX, and Bradley sites would include, but not be limited to, the following geotechnical engineering topics:

- Grading;
- Shrinkage;
- Foundation Design;
- Deepened Foundation Design and Installation;
- Foundation Settlement;
- Miscellaneous Foundations;
- Lateral Design;
- Concrete Slabs-on-Grade;
- Pavement Recommendations;
- Retaining Wall Design and Drainage;
- Dynamic (Seismic) Lateral Forces;
- Elevator Pit Design;
- Elevator Piston;
- Temporary Excavations;

- Shoring – Soldier Pile Design and Installation;
- Tie-Back Anchors and Anchor Installation and Testing;
- Internal Bracing;
- Storm Water Infiltration;
- Surface Drainage; and/or
- Plan Review.

Level of Significance after Mitigation

There would be no impact related to liquefaction and landslides.

There would be a less than significant impact related to seismic ground shaking with incorporation of PPs 4.5-1(a), 4.5-1(c), and 4.5-1(d) into the proposed housing projects. MM GEO-1 is provided to ensure that recommendations from the existing Preliminary Geotechnical Investigations are included in the project designs for the Lot 15, Warren Hall, UNEX and Bradley sites (consistent with the requirements outlined in March 2009 LRDP Amendment Final EIR PP 4.5-1[a] and PP 4.5-1[d]) .

Threshold 5.3	Would the project result in substantial soil erosion or loss of topsoil?

The analysis of Impact 4.5-2 in Section 4.5, Geology and Soils, of the March 2009 LRDP Amendment Final EIR concluded there would be less than significant impacts related to soil erosion and loss of topsoil with implementation of PP 4.7-1 and MM 4.7-1, included under the Hydrology and Water Quality analysis (UCLA 2009).

The project sites are not currently used and are not intended to be used for agricultural or other purposes that require topsoil. Therefore, implementation of the proposed development at each site would not result in the long-term loss of topsoil.

During construction activities at each site, soil would be exposed and there would be an increased potential for soil erosion compared to existing conditions. Soil erosion can occur as a result of and can be accelerated by site preparation, excavation, and grading activities. As shown in the aerial photographs depicting the construction impact limits for each site (Figures 3-18 through 3-21), the majority of the project sites are developed with impermeable surfaces and minimal soil is exposed, primarily related to landscaped areas; the Bradley site is the only site that is largely undeveloped with a pervious surface. Vegetation removal in landscaped (pervious) areas could reduce soil cohesion and reduce the protection from wind, water, and surface disturbance, which could render exposed soils more susceptible to erosive forces. Excavation or grading at the project sites may result in erosion during construction activities, regardless of whether hardscape previously existed at the construction site since exposed bare soils could be more easily eroded by wind or water. Additionally, during a storm event, soil erosion could occur at an accelerated rate.

Earth-disturbing activities associated with construction of the proposed Project would be temporary, and erosion effects would depend largely on (1) the areas excavated, (2) the quantity of excavation, and (3) the length of time soils are subject to conditions that affect erosion processes. Construction activities would comply with all provisions of the 2016 CBC related to excavation activities, grading activities, erosion control, and construction of foundations and retaining walls to minimize or eliminate soil erosion or loss of topsoil.

In addition to compliance with the 2016 CBC, the soil erosion at the sites would also be minimized or eliminated through preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) as required by PP 4.7-1 and incorporation of MM 4.7-1, which requires implementation of structural, non-structural, and treatment-control Best Management Practices (BMPs). PP 4.7-1 and MM 4.7-1 are included in Section 4.8, Hydrology and Water Quality, of this Draft SEIR, and incorporated into the proposed housing projects. Although the SWPPP is specifically focused on water quality, as opposed to geology or geotechnical issues, it would specifically incorporate erosion-control BMPs. When these construction-level BMPs are applied, they significantly reduce the erosion potential of any project development to negligible amounts. Erosion-control BMPs are designed to prevent erosion and include, but are not limited to, slope stabilization using rock or revegetation, revegetation, and hydroseeding. Incorporation of PP 4.7-1 and MM 4.7-1, as identified in Section 4.8, would ensure that potential erosion impacts remain less than significant.

With proposed Project implementation, the sites would be comprised of either impervious surfaces (e.g., structures, hardscape) or landscape areas, which, while pervious, would be installed so that there would be little soil in runoff. Therefore, consistent with the findings of the March 2009 LRDP Amendment Final EIR, the proposed Project would result in less than significant impacts related to soil erosion or loss of topsoil.

Additional Project-Level Mitigation Measures

No significant impacts would result with incorporation of PP 4.7-1 and MM 4.7-1.

Level of Significance after Mitigation

There would be a less than significant impact to substantial soil erosion or loss of topsoil.

Threshold 5.4	Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

The analysis of Impact 4.5-3 in Section 4.5, Geology and Soils, of the March 2009 LRDP Amendment Final EIR determined that, with implementation of PPs 4.5-1(a) through 4.5-1(d), there would be a less than significant impact related to construction in areas underlain by soils of varying stability subjecting people and structures to hazards associated with liquefaction, lateral spreading, landslides, subsidence, collapse or differential settlement.

As discussed under Threshold 5.1, the project sites are not considered at risk for liquefaction. Accordingly, the five project sites would also not be susceptible to lateral spreading, as this is a phenomena associated with liquefaction.

As discussed, the Lot 15, Warren Hall, UNEX, and Bradley sites are not considered at risk for landslides. The Drake Stadium site, however, is identified as being potentially susceptible to a seismically induced landslide. Slope stability, including landslide risk, and appropriate geotechnical recommendations would be part of the required geotechnical studies for the Drake Stadium Project (refer to PP 4.5-1[a] and PP 4.5-1[d]). The potential for landslides at the Drake Stadium site would be less than significant with implementation of the applicable PPs.

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. The Lot 15, Warren Hall, UNEX, and Bradley sites are not susceptible to subsidence (Geocon West 2017, 2016a, 2016b, 2016c), and the Drake

Stadium site would not likely be susceptible to subsidence, as there is little potential for subsidence on the campus as a whole (UCLA 2009a).

Laboratory testing of soil samples from the Lot 15, Warren Hall, UNEX, and Bradley sites for potential of Hydrogen (pH) and resistivity testing, chloride content, and water-soluble sulfate content was performed to determine the corrosion potential of existing soils. The pH, resistivity, and chloride testing determines whether soil is corrosive to buried ferrous metal, and the sulfate testing determines whether soil is corrosive to concrete. The laboratory test results indicate that soils on the Lot 15 site are considered corrosive to severely corrosive, soils on the Warren Hall site are moderately corrosive to severely corrosive, soils on the UNEX site and the Bradley site are corrosive. Based on these findings, the preliminary geotechnical investigations recommend that ABS (acrylonitrile butadiene styrene) pipes are used in lieu of cast-iron pipes of subdrains and retaining wall drains. The laboratory test results indicate that soils on these four sites possess negligible sulfate exposure to concrete structures. Future site-specific geotechnical studies required for the Drake Stadium site (PP 4.5-1[a]) would also address the potential for corrosive soils, and recommendations would be identified, if necessary. It is expected that the recommendations for the UNEX and Bradley sites would also be applicable to the Drake Stadium site.

As discussed previously, the proposed housing projects incorporate identified PPs and, except for the Drake Stadium site, the new MM GEO-1. With incorporation of the applicable PPs, there would be a less than significant impact related to location on an unstable geologic unit at the five housing project sites. This finding is consistent with the March 2009 LRDP Amendment Final EIR. New MM GEO-1 is provided to ensure that recommendations from the existing Preliminary Geotechnical Investigations are included in the project designs for the Lot 15, Warren Hall, UNEX and Bradley sites (consistent with the requirements outlined in March 2009 LRDP Amendment Final EIR PP 4.5-1[a] and PP 4.5-1[d]).

Additional Project-Level Mitigation Measures

No significant impacts would result with incorporation of identified PPs at the five housing sites. However, MM GEO-1 is provided to ensure that recommendations from the existing Preliminary Geotechnical Investigations are included in the project designs for the Lot 15, Warren Hall, UNEX and Bradley sites (consistent with the requirements outlined in March 2009 LRDP Amendment Final EIR PP 4.5-1[a] and PP 4.5-1[d]).

Level of Significance after Mitigation

There would be a less than significant impact related to unstable soil.

Threshold 5.5	Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

The analysis of Impact 4.5-4 in Section 4.5, Geology and Soils, of the March 2009 LRDP Amendment Final EIR determined that, with implementation of PPs 4.5-1(a), 4.5-1(c), and 4.5-1(d) there would be a less than significant impact related to expansive soils (UCLA 2009).

Expansive soils expand in the presence of water and contract when water is removed due to the sediment composition of the underlying geologic unit. Soil expansion can affect structures that are constructed on such soils since water uptake after rainfall could cause soils to expand and damage building foundations, which may compromise the stability of the structures on these

foundations. Laboratory testing of soil samples from the Lot 15, Warren Hall, UNEX, and Bradley sites indicate the soils are in the low expansion range, and geotechnical recommendations for these sites assume that the building foundations and slabs would derive support in these materials (Geocon West 2017, 2016a, 2016b, 2016c). As discussed in the March 2009 LRDP Amendment Final EIR, the potential for expansive soils varies across the campus (UCLA 2009). Laboratory testing of soil samples or physical and chemical characteristics, including expansion potential, and recommendations to address this condition, would be part of the site-specific geotechnical studies required for the Drake Stadium site, per PP 4.5-1(a), and proposed development at this site would also be subject to structural peer review, per PP 4.5-1(d). Therefore, with implementation of identified PPs, no substantial risk to people or structures with respect to expansive soils would result, and there would be a less than significant impact. This finding is consistent with the March 2009 LRDP Amendment Final EIR.

Additional Project-Level Mitigation Measures

No significant impacts would result with incorporation of identified PPs; however, MM GEO-1 would ensure that potential impacts resulting from implementation of the proposed Project remain less than significant.

Level of Significance after Mitigation

There would be a less than significant impact related to expansive soil.

Threshold 5.6	Would the project be located on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Through the Initial Study process for the March 2009 LRDP Amendment Draft EIR, implementation of the remaining development allocation contemplated under the 2002 LRDP, as amended in 2009, was determined to have no impact related to soils constraints for alternative wastewater disposal systems and was not carried forward for further discussion in the Draft EIR.

As previously analyzed and concluded in the March 2009 LRDP Amendment Final EIR, the City of Los Angeles Sanitation provides sewer service to the project site. New sewer lines installed to serve the proposed development would connect to the existing City of Los Angeles facilities. Because no septic tanks or alternative wastewater systems are proposed, there would be no impact related to the use of septic tanks or alternative wastewater disposal systems resulting from implementation of the proposed Project. There would be no impact, consistent with the findings of the March 2009 LRDP Amendment Final EIR

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

There would be no impact related to the presence of soils incapable of adequately supporting septic tanks or alternative wastewater disposal systems.

4.5.4 CUMULATIVE IMPACTS

The geographic context for the analysis of impacts resulting from geological, seismic, and soil conditions are generally site-specific, rather than cumulative, in nature because each development site has unique geologic considerations that would be subject to uniform site development and construction standards. In this way, potential cumulative impacts resulting from geological, seismic, and soil conditions would be minimized on a site-by-site basis in accordance with current engineering and construction methods and applicable CBC requirements. Nevertheless, the *City of Los Angeles General Plan Framework Final EIR* indicates that, even though adequate study, design and construction measures can be taken to reduce potential impacts, cumulative development allowed under the General Plan Framework "would contribute to the cumulative increase in the number of persons exposed to these hazards (e.g., the general seismic risk that exists throughout Southern California), this is considered significant" (City of Los Angeles 1996).

As discussed under Threshold 5.1, there would be no impacts from the risk of surface fault rupture at any of the five housing sites. Therefore, the proposed housing projects would not contribute to a cumulatively considerable impact related to fault rupture.

Cumulative impacts resulting from seismic ground shaking were regarded in the General Plan Framework EIR as significant (City of Los Angeles 1996). As described in this section, the proposed housing projects incorporate PP 4.5-1(a), PP 4.5-1(c) and PP 4.5-1(d), and new MM GEO-1, as applicable. These PPs and MM require (1) the preparation of a site-specific geotechnical studies that incorporate all 2016 CBC requirements for each UCLA development project; (2) verification that all geotechnical recommendations provided in all existing and future project-specific geotechnical studies be fully and appropriately incorporated into final designs (MM GEO-1); (3) continued compliance with the University Policy on Seismic Safety; and (4) peer structural review of all development plans. Therefore, with incorporation of these measures, the contribution of the proposed housing projects to cumulative impacts associated with exposing people and property to seismic ground shaking effects would be less than significant. This would not result in a cumulatively considerable impact.

As with seismic ground-shaking impacts, the geographic context for analysis of impacts on development from secondary seismic hazards or unstable soil (including liquefaction, lateral spreading, landslides, and/or expansive soils) is generally site specific. Because all development in the City of Los Angeles is required to undergo analysis of geological and soil conditions applicable to the development site in question and because restrictions on development would be applied in the event that geological or soil conditions pose a risk to safety, it is anticipated that cumulative impacts from development on soil subject to liquefaction, lateral spreading, landslides, or expansive soils would be less than significant. As discussed under Thresholds 5.2, 5.4, and 5.5, the Lot 15, Warren Hall, UNEX, and Bradley site soils have a low expansion potential, and the sites are not susceptible to liquefaction, lateral spreading, landslides, or subsidence. Based on the previous geotechnical study of the Drake Stadium site, the current developed condition of the site and surrounding areas, and available information on geotechnical conditions on campus from the March 2009 LRDP Amendment Final EIR, it is not expected that the Drake Stadium site would be subject secondary seismic hazards or unstable soil that would make the site unsuitable for the proposed development. However, the Drake Stadium site would be subject to a site-specific geotechnical study during project-specific building design, per PP 4.5-1(a). Incorporation of PP 4.5-1(a) and PP 4.5-1(d) into the proposed Project ensure that geotechnical recommendations are incorporated into the design and construction of the proposed housing development at this site to ensure that potential geotechnical impacts are reduced a less than significant level. With incorporation of PPs 4.5-1(a) and 4.5-1(d), the potential impacts related to secondary seismic hazards (including liquefaction, lateral spreading, and landslides) and

expansive soils would be less than significant. As a result, the contribution of the proposed housing projects to impacts associated with situating development on soil subject to instability would be less than significant and would not result in a cumulatively considerable impact.

As discussed under Threshold 5.3, the proposed Project would result in less than significant impacts related to soil erosion or loss of topsoil with implementation of PP 4.7-1 and MM 4.7-1. Each development project on campus and on other properties in the City of Los Angeles, would also be required to comply with construction-period storm water management practices to minimize or eliminate soil erosion consistent with both CBC and National Pollutant Elimination Discharge System (NPDES) requirements, such as a SWPPP. Individual projects, including the proposed housing projects, are likely to include both impervious surfaces and landscaped areas. However, as in the existing conditions, the intermittent landscaped areas would not result in soil erosion. Therefore, the proposed housing projects would not contribute to a cumulatively considerable impact related to soil erosion and loss of topsoil.

As discussed under Threshold 5.6, there would be no impacts related to soils constraints for alternative wastewater disposal systems at any of the five housing sites. Therefore, the proposed Project would not contribute to a cumulatively considerable impact related to alternative wastewater disposal systems.

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4.6 GREENHOUSE GAS EMISSIONS

This section discusses the existing conditions for greenhouse gases (GHGs) and global climate change and evaluates the potential impacts on the global climate from the implementation of the proposed Project. Sources used to prepare this section include analysis of campus-wide GHG emissions presented in Section 4.15, Climate Change, in the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR); the University of California, Los Angeles (UCLA) Climate Action Plan; the University of California (UC) Sustainability Policy; and project details as described in Section 3.0, Project Description, of this Draft Subsequent EIR (SEIR). Supporting GHG data and calculations are included in Appendix C of this Draft EIR.

Relevant elements of the proposed Project related to GHG emissions include construction and subsequent operation of approximately 1,715,000 gross square feet (gsf) of new building space (net increase of 1,500,000 gsf), which would accommodate up to 6,900 beds for undergraduate and graduate students on campus. Construction phase GHG emissions would primarily be generated by diesel-powered construction equipment on and off the site, and by worker commute vehicles. The primary contributors of operational GHG emissions would be the direct use of electrical energy and natural gas and the indirect use of electrical energy to provide water and to treat wastewater. The proposed housing developments would be designed to surpass the minimum standard Leadership in Energy and Environmental Design (LEED™) "Silver" New Construction (NC) rating. Further, the design, construction, and operation of the proposed housing projects would include a series of green building strategies under development, along with mandatory strategies required by the California Green Building Standards (CalGreen) Code and University of California (UC) Policy on Sustainable Practices, to exceed California Building Code Title 24 energy efficiency requirements by 20 percent or greater.

It should be noted that these project characteristics and the discussion in this section of energy efficiencies and reduction in vehicular travel (and associated fuel consumption) resulting from the proposed Project, demonstrate how the proposed Project avoids or otherwise reduces inefficient, wasteful, and unnecessary consumption of energy per CEQA Guidelines and Statute Appendix F and section 21100(b)(c). Further discussion of energy conservation is provided in Section 6.7 of this Draft SEIR.

Two Notice of Preparation (NOP) comment letters were received addressing GHG emissions and are included in Appendix A of this Draft SEIR. The South Coast Air Quality Management District (SCAQMD) addresses GHG emissions as an air pollutant. The SCAQMD recommended that the Lead Agency identify potential adverse air quality impacts that could occur from all phases of the proposed Project, including calculating impacts from construction and operations. The SCAQMD also identifies that mitigation measures should be identified and alternatives evaluated for significant impacts. In its NOP comment letter, the California Department of Transportation (Caltrans) notes that the Caltrans Strategic Management Plan seeks to reduce GHG emissions by increasing bicycling, walking, and public transit trips to achieve a 15 percent reduction in statewide per capita vehicle miles traveled by 2020. Similar goals are in Caltrans' 2040 Transportation Plan.

4.6.1 ENVIRONMENTAL SETTING

A detailed description of the environmental setting for GHGs and global climate change is provided in Section 4.15 of the March 2009 LRDP Amendment Final EIR. Background data relative to GHGs; global, national, and State emissions; and the general environmental effects of global climate change are also provided. Following is a summary of this discussion, updated, as appropriate, with current information.

Greenhouse Gas Background

Description of Global Climate Change

The following statements are from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) Summary for Policymakers (IPCC 2013).

- Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased.
- Human influence on the climate system is clear. This is evident from the increasing greenhouse gas concentrations in the atmosphere, positive radiative forcing, observed warming, and understanding of the climate system.
- Human influence has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in snow and ice, in global mean sea level rise, and in changes in some climate extremes. This evidence for human influence has grown since the Fourth Assessment Report. It is *extremely likely* that human influence has been the dominant cause of the observed warming since the mid-20th century.[1]

GHG emissions are primarily associated with (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition. This increasing temperature phenomenon is known as “global warming”, and the climatic effect is known as “climate change” or “global climate change”.

Climate change is a recorded change in the Earth’s average weather measured by variables such as wind patterns, storms, precipitation, and temperature. Historical records show that global temperature changes have occurred naturally in the past, such as during previous ice ages. The year 2016 ranks as Earth’s warmest year since 1880. Globally-averaged temperatures in 2016 were 1.78 degrees Fahrenheit (°F, 0.99 degree Celsius [°C]) warmer than the mid-20th century mean. This makes 2016 the third year in a row to set a new record for global average surface temperatures. The planet's average surface temperature has risen about 2.0°F (1.1°C) since the late 19th century, a change driven largely by increased carbon dioxide and other human-made emissions into the atmosphere (NASA 2017).

Greenhouse Gases

GHGs are comprised of atmospheric gases and clouds within the atmosphere that influence the Earth’s temperature by absorbing most of the infrared radiation that rises from the sun-warmed surface and that would otherwise escape into space. This process is commonly known as the “Greenhouse Effect”. GHGs are emitted by natural processes and human activities. The Earth’s surface temperature averages about 58°F because of the Greenhouse Effect. Without it, the average surface temperature would be somewhere around an uninhabitable 0°F. Anthropogenic GHG emissions enhance the Greenhouse Effect by absorbing radiation from other atmospheric

[1] In the Summary for Policymakers, in assessing the likelihood of an outcome or a result, “extremely likely” is used to indicate a 95 to 100 percent probability.

GHGs that would otherwise escape into space, thereby trapping more radiation in the atmosphere and causing temperatures to increase.

GHGs, as defined under California's Assembly Bill (AB) 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). CO_2 is the most important anthropogenic GHG. The global atmospheric concentration of CO_2, the most abundant GHG, has increased from a pre-industrial (roughly 1750) value of about 280.00 parts per million (ppm) to a peak of 404.83 ppm and a seasonally adjusted 403.28 ppm in March 2016, primarily due to fossil fuel use, with land use change providing a significant but smaller contribution. The annual CO_2 concentration growth rate during the ten-year period between 1995 and 2005 was larger than the growth rate from the beginning of continuous direct measurements in 1960 to 2005 (ESRL 2016).

GHGs are global pollutants and are therefore unlike air pollutants such as ozone, particulate matter, and toxic air contaminants (TACs), which are pollutants of regional and local concern. While pollutants with localized air quality effects have relatively short atmospheric lifetimes (generally on the order of a few days), GHGs have relatively long atmospheric lifetimes, ranging from one year to several thousand years. Long atmospheric lifetimes allow for GHGs to disperse around the globe. In addition, the GHG impacts are global, as opposed to the localized air quality effects of criteria air pollutants and TACs.

GHGs vary widely in the power of their climatic effects; therefore, climate scientists have established a unit called a global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, since CH_4 and N_2O are approximately 21 and 310 times more powerful than CO_2 (respectively) in their ability to trap heat in the atmosphere, they have GWPs of 21 and 310, respectively (CO_2 has a GWP of 1). Carbon dioxide equivalent (CO_2e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e.

Global warming in California is anticipated to impact resources, including, but not limited to, the following: public health, energy, water resources, sea level and flooding, agriculture, forestry, and ecosystems.

Additional background data relative to GHGs; global, national, and State emissions; and the general environmental effects of global climate change are included in the March 2009 LRDP Amendment Final EIR, which is incorporated by reference.

Existing Greenhouse Gas Emissions – UCLA Campus

The principal GHG emissions sources associated with the existing campus operations include electricity produced by the on-campus Cogeneration Plant using purchased natural and landfill gas; purchased grid-based electricity; natural gas used for space and water heating; operation of the campus vehicle fleet; air travel paid for by the University; use of emergency generators; private vehicle trips by faculty, staff, and students; the electricity use embodied in water consumed at the campus; and other sources. Overall, UCLA GHG emissions were estimated at 304,406 metric tons of carbon dioxide equivalent ($MTCO_2e$) in 2015 (Katz 2017). This value can be compared with the 2007 Baseline of 343,401 $MTCO_2e$, identified in the March 2009 LRDP Amendment Final EIR.

Existing Greenhouse Gas Emissions at the Project Sites

Existing GHG emissions sources at the proposed housing sites are discussed below for each site:

- **Lot 15 Site.** This site is used for a greenhouse and facilities used by the UCLA Housing and Facilities Management departments for storage of parts, material, and plants. Parking for these uses is also provided. Existing sources of GHG emissions consist of vehicles accessing and leaving the site, electrical energy use,[2] and the indirect energy use associated with water use and solid waste disposal.
- **Warren Hall Site.** This site is currently developed with Warren Hall, which houses various office uses and research facilities. Existing sources of GHG emissions consist of natural gas used for hot water, cooking, and heating; electrical energy use; the indirect energy use associated with water use and solid waste disposal; landscape maintenance equipment; and vehicles associated with occupant commuting and building service.
- **UNEX Site.** This site is currently developed with the UNEX building. Existing sources of GHG emissions consist of natural gas used for hot water and heating; electrical energy use: the indirect energy use associated with water use and solid waste disposal; landscape maintenance equipment; and vehicles associated with occupant commuting and building service.
- **Bradley Site.** This consists of an undeveloped grassy knoll adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive. There are no existing sources of GHG emissions from this site.
- **Drake Stadium Site.** This site is current developed with the Drake Stadium and concourse. There are limited sources of GHG emissions, including field lighting, a scoreboard, and minimal restroom facilities.

4.6.2 REGULATORY FRAMEWORK

Section 4.15 of the March 2009 LRDP Amendment Final EIR provides a discussion of the regulatory framework for the analysis of GHG emissions applicable at that time. There have been a number of regulatory actions and activities over recent years, especially at the State level, pertaining to GHG emissions and climate change. Therefore, the following discussion focuses on regulatory information related to GHG emissions, which has been updated since March 2009 and/or is particularly relevant to the proposed Project.

University of California

The March 2009 LRDP Amendment Final EIR identifies various University of California (UC) programs to ensure sustainable development and also identifies programs and actions taken by UCLA. These include, but are not limited to:

- UC Policy on Sustainable Practices,
- UCLA Climate Action Plan,
- UCLA Application of Green Building Design Standards and Sustainable Operations,
- UCLA Programs to Implement Clean Energy Targets,

[2] Although much of UCLA's electricity is generated at the campus Cogeneration Plant, additional electricity is purchased from the Los Angeles Department of Water and Power.

- UCLA Membership in the California Climate Action Registry (CCAR) and Climate Change Working Group,
- UCLA Sustainable Transportation Practices,
- UCLA Program to Minimize University-Generated Waste Sent to Landfills,
- UCLA Programs Related to Environmentally Preferable Purchasing Practices,
- UCLA HFCs Reduction Program, and
- UCLA Compliance with Future Regulations Required to be Promulgated under AB 32.

Following is an updated discussion of the UC Policy on Sustainable Practices and the UCLA Climate Action Plan. The remaining programs are still in effect as described in the March 2009 LRDP Amendment Final EIR.

University of California Sustainable Practices Policy

In June 2004, the UC developed detailed guidelines for the Policy on Green Building Design and Clean Energy Standards (UC Policy). This comprehensive policy established the university as a leader in promoting environmental stewardship among institutions of higher education. Subsequently renamed the Policy on Sustainable Practices, it has been revised several times (with the most recent version becoming effective in June 2017), and covers the areas of sustainable transportation, climate protection practices, building renovations, sustainable operations and maintenance, waste reduction, environmentally preferable purchasing, clean energy, and sustainable food service (UC 2016). The UC Policy includes climate change goals for the ten UC campuses that are in parallel with AB 32.

University of California Carbon Neutrality Initiative

In November 2013, UC President Janet Napolitano announced the Carbon Neutrality Initiative, establishing goals for UC to emit net zero greenhouse gases from its buildings and vehicle fleet by 2025, something no other major university system has done. The initiative builds on UC's pioneering work on climate research and furthers its leadership on sustainable business practices. UC is improving its energy efficiency, developing new sources of renewable energy and enacting a range of related strategies to cut carbon emissions (UC 2017). The campus has developed a Draft Carbon Neutrality Plan in (December 2016) and is in the process of refining initiatives and programs for implementation.

University of California, Los Angeles Climate Action Plan

The UC Sustainable Practices Policy also calls for each UC campus to draft a Climate Action Plan (CAP) that examines the feasibility of meeting the climate change goals identified in the UC Policy. The UCLA CAP was completed in December 2008 (UCLA 2017). The CAP was reviewed and endorsed by the UCLA Campus Sustainability Committee and presented to the UCLA Administration and Chancellor prior to submittal to the University of California Office of the President (UCOP).

Federal

On December 7, 2009, the U.S. Environmental Protection Agency (USEPA) Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the USEPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by the USEPA and the Department of Transportation's National Highway Safety Administration (NHTSA) on September 15, 2009 (USEPA 2009).

On August 28, 2012, the USEPA and the NHTSA announced a joint final rule to reduce GHG emissions and to improve fuel economy for new cars and trucks sold in the United States. The rule applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. The rules require these vehicles to meet an estimated combined average emissions level of 295 grams of CO_2 per mile by 2012, decreasing to 250 grams per mile by 2016, and finally to an average industry fleet-wide level of 163 grams per mile in model year 2025. The 2016 standard is equivalent to 35.5 miles per gallon (mpg), and the 2025 standard is equivalent to 54.5 mpg if the levels were achieved solely through improvements in fuel efficiency.

The agencies expect, however, that a portion of these improvements will be made through improvements in air conditioning leakage and the use of alternative refrigerants, which would not contribute to fuel economy. These standards would cut GHG emissions by an estimated 2 billion metric tons and 4 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2017–2025). The combined USEPA GHG standards and NHTSA Corporate Average Fuel Economy (CAFE) standards resolve previously conflicting requirements under both federal programs and the standards of the State of California and other states that have adopted the California standards (NHTSA 2012).

State

Executive Order S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce snowpack in the Sierra Nevada Mountains; could further exacerbate California's air quality problems; and could potentially cause a rise in sea levels. In an effort to avoid or reduce the impacts of climate change, Executive Order S-3-05 establishes a goal of a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

As described in the March 2009 LRDP Amendment EIR, AB 32, the California Global Warming Solutions Act of 2006—signed by Governor Arnold Schwarzenegger in September 2006 and codified as Sections 38500–38599 of the *California Health and Safety Code*—is the primary State regulation relative to GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020.

The California Air Resources Board Scoping Plan

The California Air Resources Board (CARB) approved a *Climate Change Scoping Plan* as required by AB 32 in 2008; this plan is required to be updated every five years. The *Climate Change Scoping Plan* proposes a "comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health" (CARB 2008). The *Climate Change Scoping Plan* has a range of GHG reduction actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation regulation to fund the program.

The *Climate Change Scoping Plan* calls for a "coordinated set of solutions" to address all major categories of GHG emissions. Transportation emissions will be addressed through a combination of higher standards for vehicle fuel economy; implementation of the Low Carbon Fuel Standard; and greater consideration for reducing trip length and generation through land use planning and transit-oriented development. Buildings, land use, and industrial operations will be encouraged and, sometimes, required to use energy more efficiently. Utility energy supplies will change to include more renewable energy sources through implementation of the Renewables Portfolio Standard. This will be complemented with emphasis on local generation, including rooftop photovoltaics and solar hot water installations. Additionally, the *Climate Change Scoping Plan* emphasizes opportunities for households and businesses to save energy and money through increasing energy efficiency. It indicates that substantial savings of electricity and natural gas will be accomplished through "improving energy efficiency by 25 percent" (CARB 2008).

The *Climate Change Scoping Plan* identifies a number of specific issues. Most relevant to the project, it identifies the potential of using the green building framework as a mechanism that could enable GHG emissions reductions in other sectors (e.g., electricity, natural gas), noting that green buildings "exceed minimum energy efficiency standards, decrease consumption of potable water, reduce solid waste during construction and operation, and incorporate sustainable materials. Combined, these measures can also contribute to healthy indoor air quality, protect human health, and minimize impacts to the environment".

The board approved the final *First Update to the Climate Change Scoping Plan* on May 22, 2014. The first update describes California's progress toward AB 32 goals, stating that "California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32". Specifically, "if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts [MW] of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80 percent below 1990 levels by 2050". This first update retains from the October 2013 draft the recalculated 1990 GHG emissions level of 431 million metric tons of carbon dioxide equivalent ($MMTCO_2e$), as well as the 509 $MMTCO_2e$ 2020 "business as usual" or No Action Taken (NAT) condition (CARB 2014). Thus, under CARB's most current document, reducing the "business as usual" or NAT condition of 509

$MMTCO_2e$ to the 1990 emissions level of 431 $MMTCO_2e$ will require a reduction of 78 $MMTCO_2e$, or approximately a 15.3 percent reduction (compared to a 28.5 percent reduction as set forth in the original Scoping Plan but not directly comparable because of the change in methodology).

On April 29, 2015, Governor Brown issued EO B-30-15 identifying a goal of establishing a midterm GHG reduction target for California of 40 percent below 1990 levels by 2030. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target. The proposed second update to the Scoping Plan, entitled *The 2017 Climate Change Scoping Plan Update – The Proposed Strategy For Achieving California's 2030 Greenhouse Gas Target* was released on January 20, 2017. Public workshops were held in January, February, and March 2017. A final scoping plan update was scheduled for the second quarter of 2017, with CARB Board consideration in June 2017, but to date these events have not occurred (CARB 2017).

Senate Bill 375

Signed September 30, 2008, Senate Bill (SB) 375 provides for a new planning process to coordinate land use planning and regional transportation plans (RTPs) and funding priorities to help California meet the GHG reduction goals established in AB 32. SB 375 requires Metropolitan Planning Organizations (MPOs), including the Southern California Association of Governments (SCAG), to incorporate a Sustainable Communities Strategy (SCS) in their RTPs that will achieve GHG emission reduction targets set by CARB. There are two mutually important facets to SB 375: reducing vehicle miles traveled (VMT) and encouraging more compact, complete, and efficient communities for the future (SCAG 2016).

CEQA Guidelines for Greenhouse Gas Emissions

At the direction of the State Legislature in SB 97 (Public Resources Code Section 21083.05), the California Natural Resources Agency (CNRA) adopted amendments to the State CEQA Guidelines that require evaluation of GHG emissions or the effects of GHG emissions. The amendments, in Section 15064.4, Determining the Significance of Impacts from Greenhouse Gas Emissions, and effective March 18, 2010, provide that:

> (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project . . .
>
> (b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:
>
> (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
>
> (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
>
> (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions.

The amendments also add Section 15126.4(c), Mitigation Measures Related to Greenhouse Gas Emissions. Generally, this State CEQA Guidelines section requires lead agencies to consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of GHG emissions. Potential measures to mitigate the significant effects of GHG emissions are identified, including those outlined in Appendix F, Energy Conservation, of the State CEQA Guidelines.

Executive Order B-30-15

On April 29, 2015, Governor Edmund Brown signed EO B-30-15, which orders "A new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050" (COOG 2015). Five key goals for reducing GHG emissions through 2030 include (1) increasing renewable electricity to 50 percent; (2) doubling the energy efficiency savings achieved in existing buildings and making heating fuels cleaner; (3) reducing petroleum use in cars and trucks by up to 50 percent; (4) reducing emissions of short-lived climate pollutants; and (5) managing farms, rangelands, forests, and wetlands to increasingly store carbon. EO B-30-15 also directs CARB to update the *Climate Change Scoping Plan* to express the 2030 target in terms of $MMTCO_2e$.

Senate Bill 350

SB 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. SB 350 implements some of the goals of EO B-30-15. The objectives of SB 350 are (California Legislative Information 2015):

(1) To increase from 33 percent to 50 percent, the procurement of our electricity from renewable sources.

(2) To double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

The text of SB 350 sets a December 31, 2030, target for 50 percent of electricity to be generated from renewable sources.

Senate Bill 32/Assembly Bill 197

SB 32, signed September 8, 2016, implements a goal of EO B-30-15. Under SB 32, in "adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions," CARB must ensure that statewide greenhouse gas emissions are reduced to 40 percent below the 1990 level by 2030. SB 32's findings state that CARB will "achieve the state's more stringent greenhouse gas emission reductions in a manner that benefits the state's most disadvantaged communities and is transparent and accountable to the public and the Legislature." AB 197, a companion to SB 32, adds two members to the CARB and requires measures to increase transparency about GHG emissions, climate policies, and GHG reduction actions.

Title 24 Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings (*California Code of Regulations* [CCR], Title 24, Part 6) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The California Energy Commission (CEC) adopted the 2008 changes to the Building Energy Efficiency Standards in order to (1) "Provide California

with an adequate, reasonably-priced, and environmentally-sound supply of energy" and (2) "Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its greenhouse gas emissions to 1990 levels by 2020" (CEC 2008). Title 24, Part 6 of the 2016 California Building Standards Code (known as the 2016 California Energy Code) went into effect on January 1, 2017 (CBSC 2016). The requirements of the energy efficiency standards result in the reduction of natural gas and electricity consumption. Both natural gas use and electricity generation result in GHG emissions.

Title 24 Green Building Standards

The 2016 California Green Building Standards Code (CCR, Title 24, Part 11) is a code with mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools, and hospitals) throughout California and became effective on January 1, 2017. The code is Part 11 of the California Building Standards Code in Title 24 of the *California Code of Regulations* and is also known as the CALGreen Code (CBSC 2016).

The development of the CALGreen Code is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

The CALGreen Code contains requirements for construction site selection, storm water control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. The code provides for design options, allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

California Air Pollution Control Officers Association

The California Air Pollution Control Officers Association (CAPCOA) is the association of Air Pollution Control Officers representing all 35 local air quality agencies throughout California. CAPCOA is not a regulatory body but has been an active organization in providing guidance in addressing the CEQA significance of GHG emissions and climate change as well as other air quality issues.

The August 2010 CAPCOA publication *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures* provides guidance on the quantification of project-level mitigation of GHGs associated with land use, transportation, energy use, and other related project areas. The mitigation measures quantified in the report generally correspond to measures previously discussed in CAPCOA's earlier reports: *CEQA and Climate Change* (2008) and *Model Policies for Greenhouse Gases in General Plans* (2009) (CAPCOA 2010). The guidance includes detailed procedures on the definition of "business as usual" emissions and the approaches to assessing and calculating the GHG emission reductions associated with project design features and mitigation measures. The methodologies of this publication are used in the California Emissions Estimator Model (CalEEMod) that is used to calculate the GHG emissions in this analysis.

Caltrans Plans

Caltrans developed its Strategic Management Plan (SMP) 2015-2020 to outline Caltrans' role, expectation and operations; one of the tools to implement the SMP 2015-2020 is sustainability. Specifically, a strategic objective is to "improve the quality of life for all Californians by providing mobility choice, increasing accessibility to all modes of transportation and creating transportation corridors not only for conveyance of people, goods, and services, but also as livable public spaces." The established targets to meet by 2020 are to triple trips made by bicycles and double trips made by walking and public transit. With respect to reducing GHG emissions, the SMP 2015-2020 also identifies at target to achieve a 15 percent reduction in statewide per capita vehicle miles traveled by 2020.

Similar goals are set forth in Caltrans' California Transportation Plan 2040 (CTP 2040), which is a statewide, long-range transportation plan to meet future mobility needs and reduce GHG emissions. The CTP 2030 defines performance-based goals, policies, and strategies to achieve the vision for California's future, statewide, integrated, multimodal transportation system. The purpose of the CTP 2040 is to provide a common policy framework to guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the State's transportation needs.

Regional

Southern California Association of Governments

As previously discussed, SB 375 specifically required Metropolitan Planning Organizations (MPOs), including SCAG, to incorporate an SCS in their RTPs that will achieve GHG emission reduction targets set by CARB. In June 2012, CARB accepted SCAG's determination that the *2012–2035 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) would meet the region's GHG reduction target. SCAG's SCS is now included in its 2016–2040 RTP/SCS, which was adopted by SCAG on April 7, 2016. The goals and policies of the RTP/SCS that reduce vehicle miles traveled (VMT) focus on transportation and land use planning that include building infill projects; locating residents closer to where they work and play; and designing communities so there is access to high-quality transit service. The 2016–2040 RTP/SCS is expected to reduce per capital transportation emissions by 8 percent by 2020 and by 18 percent by 2035 (SCAG 2016).

South Coast Air Quality Management District

As previously discussed in Section 4.2, Air Quality, of this Draft EIR, air quality in Los Angeles County is regulated by the SCAQMD, the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin (SoCAB), which includes Los Angeles County. To that end, the SCAQMD, a regional agency, works directly with SCAG, County transportation commissions, and local governments and cooperates actively with all federal and State government agencies. The SCAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

Beginning in April 2008, the SCAQMD convened a Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. The Working Group was scheduled to meet once per month. On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold of

10,000 $MTCO_2e$ per year ($MTCO_2e$/yr)[3] for industrial projects where the SCAQMD is the lead agency. In September 2010, the Working Group presented a revised tiered approach to determining GHG significance for residential and commercial projects (SCAQMD 2010). These proposals have not yet been considered by the SCAQMD Board.

At Tier 1, GHG emissions impacts would be less than significant if the project qualifies under a categorical or statutory CEQA exemption. At Tier 2, for projects that do not meet the Tier 1 criteria, the GHG emissions impact would be less than significant if the project is consistent with a previously adopted GHG reduction plan that meets specific requirements.[4] At Tier 3, the Working Group proposes extending the 10,000 $MTCO_2e$/yr screening threshold currently applicable to industrial projects where the SCAQMD is the lead agency, described above, to other lead agency industrial projects. For residential and commercial projects (that is, non-industrial projects), the Working Group proposes the following Tier 3 screening values: either (1) a single 3,000 $MTCO_2e$/yr threshold for all land use types or (2) separate thresholds of 3,500 $MTCO_2e$/yr for residential projects, 1,400 $MTCO_2e$/yr for commercial projects, and 3,000 $MTCO_2e$/yr for mixed-use projects. These screening values were developed from a survey of CEQA projects. It is estimated that projects with emissions above these values would produce 90 percent of the anticipated GHG emissions from residential/commercial projects and projects below the screening level would contribute 10 percent or less of the regional GHG emissions from land development. Therefore, a project with emissions less than the applicable screening value would be considered to have less than significant GHG emissions. Projects with emissions greater than the Tier 3 screening values would be analyzed at Tier 4 by one of three methods:

1. **A Percent Emission Reduction Target.** This method is used by the Sacramento Metropolitan and San Joaquin Valley Air Districts and the City of San Diego. The SCAQMD Working Group made no recommendation relative to this method.
2. **Early Implementation of Applicable AB 32 Scoping Plan Measures.** The Working Group assumes implementation of AB 32 measures would be incorporated in method 3 below.
3. **Efficiency Targets.** On the project level, 2020 GHG emissions should not exceed 4.8 $MTCO_2e$/year per service population (SP) where SP is project residents plus employees. Further, 2035 GHG emissions should not exceed 3.0 $MTCO_2e$/year per SP (SCAQMD 2010).

Projects with GHG emissions not meeting the Tier 4 targets would be required to provide mitigation in the form of real, quantifiable, and verifiable offsets to achieve the target thresholds. The offsets may be achieved through project design features, other on-site methods, or by off-site actions, such as energy efficiency upgrade of existing buildings.

In summary, to date, the SCAQMD Board has adopted an interim CEQA significance threshold for GHGs for industrial projects where the SCAQMD is the lead agency and continues to consider screening levels under CEQA for residential, commercial, and mixed-use projects. This proposed

[3] GHG emissions are commonly expressed as $MTCO_2e$. Larger quantities of emissions, such as on the world or State scale, are expressed in $MMTCO_2e$.

[4] The plan must (a) quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area; (b) establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable; (c) identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area; (d) specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level; (e) establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and (f) be adopted in a public process following environmental review (State CEQA Guidelines, Section 15183.5).

screening and mitigation proposal from SCAQMD remains a work in progress; the Working Group has not convened since the fall of 2010. As of summer 2017, the proposal has not been considered or approved for use by the SCAQMD Board. Thus, no GHG significance thresholds are approved for use in the SoCAB for non-industrial projects.

4.6.3 PROJECT IMPACTS AND MITIGATION

Methods

Construction and operational emissions of CO_2e were calculated by using CalEEMod Version 2016.3.1, as described in Section 4.2, Air Quality, of this Draft EIR. Construction assumptions are described in Section 4.2 and in Appendix C. The results are output in $MTCO_2e$ per year. Construction emissions would be associated with vehicle engine exhaust from construction equipment, vendor trips, and worker commuting trips.

Sources of the operational GHG emissions attributed to the proposed Project include the area, energy, and stationary sources described in Section 4.2, Air Quality, of this Draft EIR. Additional sources of GHG emissions include the generation of electricity used by the project,[5] the electricity embodied in water supply and treatment, the electricity embodied in wastewater treatment, and the energy associated with solid waste disposal.[6] As discussed in Section 4.2, Air Quality, changes in trip generation attributed to the proposed housing projects would be negligible; therefore, operational mobile source GHG emissions are not calculated.

The proposed housing projects would be designed to surpass the minimum standard of a LEED "Silver" rating, and to exceed California Building Code Title 24 energy efficiency requirements by 20 percent or greater. The proposed housing projects would also implement energy- and water-efficiency measures that would result in reduced GHG emissions; these measures and are described in Programs, Practices, and Procedures (PP) 4.14-2(a) (low-flow plumbing fixtures) and PP 4.14-2(b) (water-efficient irrigation) under the Utilities and Service Systems analysis (see Section 4.14 of this Draft SEIR) and in Appendix C. CalEEMod incorporates local energy emission factors. Mitigation measures in the model are based on CAPCOA's publication *Quantifying Greenhouse Gas Mitigation* Measures (CAPCOA 2010).

Because construction emissions are temporary and there are few measures for mitigation of construction GHG emissions, the SCAQMD has recommended amortizing construction emissions over the life of a project and adding the value to operational emissions. A common value for project life is 30 years (SCAQMD 2008). The SCAQMD-recommended practice is included in the proposed Project's GHG calculations.

As described in the March 2009 LRDP Amendment EIR, the methods for assessing GHG emissions differ for UCLA's annual reports per the UC Sustainability Policy and for this Draft SEIR. UC and UCLA methods support reporting of direct emissions from University-owned and operated functions and some indirect emissions, whereas the Draft SEIR analysis includes both direct and indirect emissions associated with the proposed Project. As an example, UCLA, in its annual reports, does not report the emissions embodied in water supply and wastewater treatment or

[5] Although much of UCLA's electricity is generated at the campus Cogeneration Plant, additional electricity is purchased from the Los Angeles Department of Water and Power. It is assumed that the proposed Project would require additional purchased electricity.

[6] By accepted CAPCOA and SCAQMD methods, the air quality operational emissions analysis in Section 4.2, Air Quality, of this Draft SEIR, is limited to direct emissions (i.e. emissions generated on the proposed housing sites). The GHG emissions analysis includes both direct and indirect emissions; the indirect emissions include electricity, water, and solid waste elements.

emissions from construction equipment used on new development projects, whereas these emissions are estimated in this Draft SEIR.

Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, a project will normally have a significant adverse environmental impact related to GHG emissions if it will:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Method Used to Determine Significance

Under CEQA, the choice of method or threshold to determine the significance of a climate change impact is left to the "judgment and discretion of the lead agency". Accordingly, the UC as lead agency for the proposed Project has, using its best judgment and information available at this time, determined an analytical framework and determined the significance of potential climate change impacts associated with the proposed Project in this Draft EIR.

With respect to Threshold 6.1, neither the SCAQMD nor CARB has adopted a CEQA significance threshold for GHG emissions generated by a proposed Project, with one exception; as noted above, SCAQMD has established a threshold for industrial projects where SCAQMD is the lead agency.

Because of the global nature of the climate change problem, most projects will not result in GHG emissions that are individually significant, on a project-specific level. (CAPCOA 2008). This concept is supported in the various California Attorney General, California Governor's Office of Planning and Research, and SCAQMD publications described in the March 2009 LRDP Amendment EIR, which almost exclusively address cumulative impacts. Therefore, it is accepted as very unlikely that any individual development project, alone, would have GHG emissions of a magnitude to directly impact global climate change, and the impact of the proposed Project is therefore considered on a cumulative basis.

For purposes of this Draft SEIR, the quantitative emissions of the proposed Project are compared with the SCAQMD-recommended screening threshold of 3,500 $MTCO_2e$ per year for residential development projects. As described above, projects with emissions less than this threshold are anticipated to contribute ten percent or less of the regional GHG emissions from land development. The project contributions to global GHG emissions would not be cumulatively considerable, and the impact would be less than significant. If emissions exceed this threshold, then the proposed Project emissions are analyzed using a SCAQMD efficiency target appropriate for the estimated operational year. If GHG emissions are greater than the target efficiency, additional mitigation measures would be required.

With respect to Threshold 6.2, the impact of the proposed Project is evaluated in this Draft SEIR by determining whether the project would impede or conflict with applicable emissions reduction targets and strategies prescribed in or developed to implement AB 32 or SB 32, including, but not limited to, the UC Policy on Sustainable Practices (Sustainable Practices Policy), UC Carbon Neutrality Initiative, the UCLA CAP, and the SCAG 2016–2040 RTP/SCS.

Campus Programs, Practices, and Procedures Forward from the March 2009 LRDP Amendment Final EIR

The following Program, Practice, and Procedure (PP) was adopted as part of the March 2009 LRDP Amendment Final EIR, and is incorporated as part of the proposed Project and assumed in the analysis presented in this section.

PP 4.15-1 *The campus shall continue to implement provisions of the UC Policy on Sustainability Practices including, but not limited to: Green Building Design; Clean Energy Standards; Climate Protection Practices; Sustainable Transportation Practices; Sustainable Operations; Recycling and Waste Management; Environmentally Preferable Purchasing Practices; and provisions of the applicable UCLA Climate Action Plan.*

In addition, the following measures, which are included under the Utilities and Service Systems analysis (Section 4.14 of this Draft EIR), have been incorporated into the proposed Project and require that the campus continue to implement energy and water conservation measures and reduce solid waste generation which would, in turn, reduce associated GHG emissions:

PP 4.14-2(a) *New facilities and renovations (except for patient care facilities in the Medical Center) shall be equipped with low-flow showers, toilets, and urinals.*

PP 4.14-2(b) *Measures to reduce landscaping irrigation needs shall be used, such as automatic timing systems to apply irrigation water during times of the day when evaporation rates are low, installing drip irrigation systems, using mulch for landscaping, subscribing to the California Irrigation Management Information System Network for current information on weather and evaporation rates, and incorporating drought-resistant plants as appropriate.*

PP 4.14-2(c) *The campus shall promptly detect and repair leaks in water and irrigation pipes.*

PP 4.14-2(d) *The campus shall minimize the use of water to clean sidewalks, walkways, driveways and parking areas.*

PP 4.14-2(g) *The campus shall educate the campus community on the importance of water conservation measures.*

PP 4.14-9 *The campus shall continue to implement energy conservation measures (such as energy-efficient lighting and microprocessor-controlled HVAC equipment) to reduce the demand for electricity and natural gas. The energy conservation measures may be subject to modification as new technologies are developed or if current technologies become obsolete through replacement.*

Impact Analysis

Threshold 6.1	Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

Construction GHG emissions are primarily generated by vehicle engine exhaust from construction equipment, on-road hauling trucks, vendor trips, and worker commuting trips. Construction emissions of CO_2e were calculated by using CalEEMod Version 2016.3.1. The estimated construction emissions for the proposed housing projects are shown in Table 4.6-1. Table 4.6-1 includes the 30-year amortization of construction emissions.

TABLE 4.6-1
ESTIMATED CONSTRUCTION GREENHOUSE GAS EMISSIONS FOR THE PROPOSED HOUSING PROJECTS

Year	Emissions ($MTCO_2e$)
2018	849
2019	2,889
2020	2,753
2021	1,900
2022	65
2023	1,395
2024	1,469
2025	757
Total	**12,078**
Annual emissions for 30-year amortization	***402***

$MTCO_2e$: metric tons carbon dioxide equivalent.
Note: CalEEMod model data sheets are included in Appendix C.

Operational Emissions

Operational GHG emissions for the proposed housing projects were calculated with CalEEMod in accordance with the methods described above and in Section 4.2, Air Quality, of this Draft SEIR. Model inputs include Project-specific data for water use (see Section 4.14, Utilities and Service Systems, of this Draft SEIR) and CalEEMod default data for electricity and natural gas. As further discussed in Section 4.14, Utilities and Service Systems, once all five of the proposed housing projects becomes operational, UCLA would be diverting 100 percent of its solid waste from landfills; therefore, GHG emissions from solid waste are not included. The CalEEMod model includes data to calculate emissions reductions based on Project-specific characteristics and mitigation measures. Project design would exceed the 2016 California Building Code energy efficiency requirements by 20 percent. It is likely that greater energy efficiency would be required for later phases of the development, but the corresponding reductions in GHG are not assumed in the analysis. Operational GHG emissions are shown in Table 4.6-2. Table 4.6-2 also includes the amortized construction emissions to yield the total annual emissions estimated for the proposed Project in the buildout year 2025. It should be noted that the calculation of operational emissions for the proposed Project is conservative, as no credit is taken for existing GHG emissions that would be removed. The calculation is also conservative because it is very likely that energy efficiency requirements for buildings built after January 1, 2020 (i.e., Bradley and

Drake Stadium sites) would result in less energy use than the calculated 20 percent above the 2016 building code.

TABLE 4.6-2
ESTIMATED ANNUAL OPERATIONAL AND TOTAL GREENHOUSE GAS EMISSIONS FOR THE PROPOSED HOUSING PROJECTS

Source	Emissions $MTCO_2e/yr$
Area	30
Energy	4,093
Stationary	8
Water	1,130
Total Operational Emissions – Proposed Project	**5,379**
Plus: Amortized construction emissions (Table 4.6-1)	402
Total Emissions – Proposed Project	**5,663**

$MTCO_2e/yr$: Metric tons of carbon dioxide equivalent per year
Totals may not add due to rounding.
Note: Detailed calculations can be found in Appendix C.

As shown in Table 4.6-2, the estimated annual operational GHG emissions for the proposed housing projects, including amortized construction emissions, is 5,663 $MTCO_2e/yr$. This value may be compared with the proposed SCAQMD Tier 3 screening threshold of 3,500 $MTCO_2e/yr$ for residential projects. These estimated annual GHG emissions exceed the screening threshold. Therefore, the proposed Project GHG emissions are compared with the SCAQMD efficiency targets, which are appropriate for use on large projects.

The service population for the proposed housing projects would be 6,900 residents plus 145 staff for a total of 7,045. The efficiency target for the buildout year 2025 is 4.2 $MTCO_2e$/year per SP, interpolated between the 2020 target of 4.8 $MTCO_2e$/year per SP and the 2035 target of 3.0 $MTCO_2e$/year per SP (SCAQMD 2010.) Table 4.6-3 shows the proposed Project GHG emissions compared with the SCAQMD recommended efficiency target.

TABLE 4.6-3
ESTIMATED GREENHOUSE GAS EMISSIONS EFFICIENCY FOR THE PROPOSED HOUSING PROJECTS

Source	Emissions $MTCO_2e/yr$
Total Emissions – Proposed Project (Table 4.6-2)	5,663
Service population	7,045
GHG efficiency (MTCO2e/SP/year)	**0.80**
Interpolated SCAQMD-recommended project level efficiency threshold	4.2
Exceed threshold?	**No**

$MTCO_2e/yr$: Metric tons of carbon dioxide equivalent per year
Note: Detailed calculations can be found in Appendix C.

As shown in Table 4.6-3, the proposed Project GHG efficiency of 0.80 $MTCO_2e$/year per SP in 2025 would be substantially less than the efficiency target of 4.2 $MTCO_2e$/year per SP and would, in fact, be substantially less than the 2035 target of 3.0 $MTCO_2e$/year per SP. GHG emissions would not either directly or indirectly, have a significant impact on the environment.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have a less than significant impact on the environment from generation of greenhouse gas emissions, either directly or indirectly, because estimated annual GHG emissions would be below the SCAQMD-recommended efficiency target.

Threshold 6.2	Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Following is a discussion of the proposed Project's consistency with applicable UC, UCLA, State and regional plans, policies and regulations for the reduction of GHGs. As described above, a federal regulation requires improved fuel economy of cars and light-duty trucks. This regulation is not directly applicable to the proposed Project. The proposed Project would not conflict with the federal policy and no further analysis is required.

University of California Plans, Policies, and Regulations

The proposed Project incorporates PP 4.15-1, which ensures implementation of applicable provisions of the UC Sustainable Practices Policy (UC Policy) (UC 2016), the current UCLA CAP prepared in 2008, and the Draft Carbon Neutrality Plan (December 2016). The majority of the sustainable practices polies and CAP initiatives are applicable at the UC-wide or campus-wide level and are not applicable to specific projects. Examples are green power purchasing, efficient vehicles and tires for campus fleets, transportation demand programs, and campus outreach programs. Additional policies are applicable to certain types of projects, but not the proposed Project, such as existing building renovation and consolidating server rooms. The UC Policy and UCLA CAP policies applicable to the proposed Project are discussed below.

<u>UC Policy on Sustainable Practices and UCLA Climate Action Plan</u>

The Policy for **Green Building Design** includes the following goals applicable to the proposed Project:

- Exceed Title 24 energy efficiency standards by 20 percent and strives to exceed Title 24 by 30 percent or more "whenever possible within the constraints of program needs and standard budget parameters". Exceeding Title 24 by 20 percent is also in Climate Action Plan Initiative 11.3.
- Design and build all new buildings (except for laboratory and acute care facilities) to a minimum standard equivalent to a LEED-NC "Silver" rating and strive to achieve a standard equivalent to a LEED-NC "Gold" rating or higher, whenever possible within the constraints of program needs and standard budget parameters. Achieving a minimum Silver rating is also in Climate Action Plan Initiative 11.3.

- Achieve at least two points within the available credits in the LEED-Building Design and Construction (BD+C) Water Efficiency category, for new buildings.

As discussed in Section 3.5.4, Sustainable Design Features, of this Draft SEIR, the proposed housing projects would be designed to achieve a minimum LEED-NC Silver rating and to exceed Title 24 requirements by 20 percent. The proposed housing developments would also comply with CALGreen Tier 2 voluntary measure requirements and would participate in the Savings by Design building performance incentive program administered by public energy utility under the auspices of the California Public Utilities Commission. Further, as part of the LEED rating and CALGreen Tier 2 measures, the proposed Project would include water conservation measures (PP 4.14-2[a] through PP 4.14-2[d]), solid waste conservation measures (PP 4.14-3), and energy conservation measures (PP 4.14-9).

Relevant to the proposed Project, the Policy for **Sustainable Transportation** includes mechanisms for reducing commute emissions, which are also discussed in Climate Action Plan. The Sustainable Transportation policy includes goals to reduce its percentage of employees and students commuting by single-occupancy vehicles (SOV) by 10 percent relative to its 2015 SOV commute rates by 2025. The Commute Emissions Reduction Initiative 8.2 in the UCLA CAP provides for "continued expansion of on-campus housing for undergraduate and graduate students" and states, "The benefit of housing students and employees on-campus is that it brings these commuters to the doorstep of the campus and largely eliminates their commute carbon footprint" (UCLA 2008). By increasing the number of on-campus beds/students, the proposed housing projects are consistent with this policy. As further discussed in Section 4.13, Transportation/Traffic, of this Draft SEIR, the proposed on-campus housing projects, which include the provision of up to 6,900 undergraduate and graduate beds on campus, would reduce weekday commute trip generation by an estimated 77 trips per day and would add approximately 50 trips per day to service the proposed housing sites. This would result in a net weekday trip generation reduction of approximately 27 trips, consistent with this goal to reduce commute emissions.

The Policy for **Recycling and Waste Management** includes a waste diversion goal of 75 percent by June 30, 2012, increasing to zero waste by 2020. UCLA surpasses the established 75 percent construction waste diversion goal and currently diverts approximately 70 percent of its solid waste. This is accomplished through various practices including, but not limited to, recycling, use as green waste, and conversion from waste to energy. The proposed residential buildings would be required to comply with UCLA's programs in place to reduce the amount of solid waste diverted to landfills during construction and operation.

The Policy for **Sustainable Foodservice** would be relevant to the Bradley site of the proposed Project as it is proposed to be developed with dining services. The policy goal is to procure 20 percent sustainable food products by the year 2020 and to certify at least one foodservice facility as a green business. In 2015-2016, dining services under Housing & Hospitality Services (H&HS) sourced approximately 19 percent of its total food purchases from sustainable sources and two of the H&HS foodservices are certified green restaurants (https://www.sustain.ucla.edu/housing/dining-green/).

University of California Carbon Neutrality Initiative

The UC Carbon Neutrality Initiative establishes goals for UC to emit net zero greenhouse gases from its buildings and vehicle fleet by 2025. UCLA has prepared a Draft Carbon Neutrality Plan and is in the process of refining initiatives and programs for implementation. The proposed housing projects would be constructed and operated in compliance with applicable provisions of UCLA's Carbon Neutrality Plan.

State and Regional Plans, Policies, and Regulations

Assembly Bill 32

The primary State policy document is AB 32. While many of the AB 32 policies are statewide actions and are not applicable to the proposed Project (e.g., the low carbon fuel standard, goods movement, and high speed rail), the proposed Project supports the following AB 32 policies:

- **Energy Efficiency.** As discussed above, the proposed housing projects would reduce building energy consumption by approximately 20 percent below Title 24 requirements.
- **Green Buildings.** The proposed Project has been designed to surpass the minimum standard LEED "Silver" rating. To achieve this rating, the design, construction, and operation of the proposed Project would incorporate a series of green building strategies. The proposed housing developments would also comply with CALGreen Tier 2 voluntary measure requirements and would participate in the Savings by Design building performance incentive program administered by public energy utility under the auspices of the California Public Utilities Commission.

- **Recycling and Waste.** This policy includes a measure for High Recycling/Zero Waste. Although the AB 32 measure focuses primarily on commercial recycling, the UCLA Zero Waste Plan contributes to achieving this policy.

- **Water.** The first measure of the AB 32 Water policy is Water Use Efficiency. The proposed Project would provide efficient water use through LEED and CALGreen requirements and compliance with the UC Sustainable Practices Policy.

Executive Orders S-3-05 and B-30-15 and SB 32

EO S-3-05, as previously discussed, sets a goal of a reduction of GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. AB 32 was enacted after EO-S-3-05 was signed. The Legislature declined to include the Executive Order's 2050 goal in AB 32, and again declined to use the EO's goal in adopting SB 375 and SB 32. EO B-30-15, as previously discussed, sets a new interim statewide goal for greenhouse gas emission reduction target of reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030. This measure is intended to ensure California meets the goal set out in EO S-3-05 of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050 (COOG 2015). SB 350 was signed into law and, as noted above, it requires the state to double energy efficiency savings in electricity and natural gas by retail customers by 2030 and raises the Renewables Portfolio Standard (RPS) so that half of the state's electricity must be procured from renewable sources by 2030. Subsequently, SB 32 adopted the 2030 target identified in EO B-30-15. Thus, the 2020 target is the core of AB 32 (discussed above) and the 2030 target is the core of SB 32. The 2050 target remains a goal of EO S-3-05 and, although it is part of the regulatory setting, is not a binding mandate.

Actions to implement EO B-30-15 and SB 32 are contained in the Second Update to the Scoping Plan, *The 2017 Climate Change Scoping Plan Update - The Proposed Strategy For Achieving California's 2030 Greenhouse Gas Target* (CARB 2017). The elements of the proposed plan are primarily for action at the State level, such as an increased Low Carbon Fuel Standard and putting 4.2 million zero-emission vehicles on the roads; or by specific industries, such as improving freight system efficiency and reducing GHG emissions at refineries. Thus, the proposed housing projects would not conflict with those elements. However, the proposed housing projects would support a goal of the SB 350 element of the proposed CARB scoping plan update, i.e., doubling of energy

efficiency savings by 2030. The proposed housing projects would exceed current Title 24 energy efficiency standards by 20 percent. Further, the Campus would participate in the UC Carbon Neutrality Initiative. It is concluded that the proposed housing projects would not conflict with EO S-3-05, EO B-30-15, and SB 32.

Senate Bill 375, Caltrans Plans, and SCAG 2016–2040 RTP/SCS

A primary goal of SB 375 and the SCAG 2016–2040 RTP/SCS is to reduce GHG emissions by reducing vehicle trips and associated VMT. This goal is also consistent with the Caltrans SMP 2015-2020 and CTP 2040. Methods to reduce VMT include locating residents closer to where they work and play; designing walkable environments; and providing access to high-quality transit service. The proposed on-campus housing projects would have a net reduction in weekday trip generation, thereby reducing VMT. In addition, the proposed housing projects achieve these VMT reduction goals by providing the following benefits:

- The project sites are served by UCLA's bus service and each of the sites is located within walking distance to public bus lines and/or adjacent to pedestrian and bicycle facilities, as described in Section 4.13, Transportation/Traffic, of this Draft SEIR. As further discussed in Section 4.9, Land Use and Planning, of this Draft SEIR, and shown in Figure 4.9-3, each the proposed housing sites is located in a designated High Quality Transit Area (HQTA),[7] and the Warren Hall, UNEX, and Bradley sites are also in existing Transit Priority Areas, which are areas within 0.5-mile of major transit stops. Additionally, the proposed housing project at the Warren Hall site include improvements to the existing BruinBus stop south of the site on the north side of Weyburn Avenue.
- The proposed housing projects would provide bicycle storage, encouraging bicycle commuting for residents and staff.
- Pursuant to PP 4.13-1(d) (discussed in Section 4.13, Transportation/Traffic), which is incorporated into the proposed Project, UCLA actively provides and promotes vanpools; carpool matching and parking incentive programs; financial incentives for carpool and vanpool participants; accommodation of the use of other modes of transit, including bicycles, motorcycles, and scooters; alternative work schedules and telecommuting; a car share program; annual distribution of the UCLA Commuter's Guide; parking control management; and access restriction to main campus parking facilities for on-campus housing residents.

The campus trip generation cap of 139,500 average daily trips, established in the 1990 LRDP and retained in the 2002 LRDP and the March 2009 LRDP Amendment, provides input to SCAG trip generation forecasts. As further discussed in Section 3.7.4, LRDP Average Daily Traffic and Parking Limits, of this Draft SEIR, the proposed Project would not alter the established trip cap of 139,500 average daily trips. Based on the 2016 Cordon counts, UCLA currently generates approximately 105,284 average daily trips (UCLA 2016). Therefore, the proposed Project does not involve any actions that would exceed the SCAG forecasts, and implementation of the proposed Project would be consistent with the 2016–2040 RTP/SCS.

[7] A High Quality Transit Area is a place where people live in compact communities and have ready access to a multitude of safe and convenient transportation alternatives to driving alone—including walking and biking, taking the bus, light rail, commuter rail, the subway, and/or shared mobility options.

The above analysis demonstrates the proposed Project's consistency with applicable UC, UCLA, federal, State, and regional plans, policies, and regulations relative to reducing GHG emissions. Therefore, the proposed Project would result in a less than significant impact related to conflicts with plans, policies, or regulations pertaining to reducing GHG emissions.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have less than significant potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

4.6.4 CUMULATIVE IMPACTS

When considering the impact of the proposed Project, and virtually all development projects, their contribution to GHG Emissions are considered on a cumulative basis. As described previously, it is accepted as very unlikely that any individual development project, including the five proposed student housing structures, would have GHG emissions of a magnitude to directly impact global climate change. Impacts for Thresholds 6.1 and 6.2 were found to be less than significant; therefore, the proposed Project's cumulative impacts would be less than significant.

4.6.5 REFERENCES

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4.7 HAZARDS AND HAZARDOUS MATERIALS

This section describes the potential adverse impacts to human health and the environment resulting from exposure to hazardous materials on campus from the proposed Project, and the University's ongoing programs to reduce those impacts. Data and information used in this section were derived from the analysis of campus-wide hazards and hazardous materials presented in Section 4.6, Hazards and Hazardous Materials, of the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR); site-specific asbestos, lead, and soils studies conducted at the Lot 15 site; and other sources as cited in this section and listed in Section 4.7.5, References.

Relevant elements of the proposed Project related to hazards and hazardous materials include (1) the demolition of the existing Warren Hall and University Extension (UNEX) buildings, which have the potential to contain asbestos-containing materials (ACM) and lead-based paint (LBP) due to the age of the structures and (2) new construction, including construction of buildings that are taller than those currently existing on the project sites and are in proximity to the helistop at the Ronald Reagan UCLA Medical Center (RRUCLAMC). Operation of the proposed Project would not involve handling of hazardous materials that are not already used at the existing apartment building or elsewhere on campus.

The University received no comment letters related to hazards or hazardous materials in response to the Notice of Preparation circulated for this Draft Subsequent EIR (SEIR).

4.7.1 ENVIRONMENTAL SETTING AND REGULATORY FRAMEWORK

Section 4.6.1, Environmental Setting, of the 2009 LRDP Amendment Final EIR includes a brief discussion of hazardous materials used in the Northwest zone, and Section 4.6.2, Hazardous Materials Used on Campus and Regulatory Setting, of the 2009 LRDP Amendment Final EIR includes a discussion of the hazardous materials used on the UCLA campus and the federal, State, and University regulations that guide the use of hazardous materials on campus. As hazards and hazardous materials covers many diverse topics, for ease of readability, the discussion of applicable regulations is organized by topic rather than by jurisdiction. Additionally, results of updated regulatory database searches regarding documented hazardous material sites on campus and site-specific information regarding the use of hazardous materials is provided below.

Hazardous Material and Chemical Use on Campus

The March 2009 LRDP Amendment Final EIR and this Draft SEIR use the definition given in Section 25501(o) of the *California Health and Safety Code,* which defines a "hazardous material" as follows:

> Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous Materials" include, but are not limited to, hazardous substances, hazardous wastes, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or environment.

"Hazardous waste" is any hazardous material that is abandoned, discarded, or recycled, as defined by Sections 25117 and 25124 of the *California Health and Safety Code.* In addition, hazardous wastes may occasionally be generated by actions that change the composition of

previously nonhazardous materials. The criteria used to characterize a material as hazardous include ignitability, toxicity, corrosivity, reactivity, radioactivity, or bioactivity.

Campus-Wide Hazardous Material and Chemical Use

Hazardous materials used by UCLA for medical treatment, research, and teaching laboratories, include the following:

- Solvents used for cleaning, extraction, or other laboratory activities.
- Chemical reagents (chemical starting materials).
- Chemical reaction products, which may have unknown compositions.
- Radioisotopes (radioactive elements used to stimulate or trace chemical reactions).
- Infectious agents, including bacteria, viruses, and other medical wastes.
- Test samples (e.g., specimens such as blood, tissue, soil, or water) prior to use in a testing procedure.
- Compressed gases.
- Mercury and other materials described below.

Facilities Management units (including grounds, custodian services, pest management, and craft shops) use a wide variety of commercial products formulated with hazardous materials. Hazardous materials used by UCLA for campus maintenance include the following:

- Fuels (gasoline and compressed natural gas [CNG]).
- Oils and lubricants.
- Antifreeze.
- Cleaners, which may include solvents and corrosives in addition to soaps and detergents.
- Paints and paint thinners.
- Hydrochlorofluorocarbons (HCFCs) (refrigerants).
- Pesticides and herbicides.
- Aqueous Urea, acids, and caustics used in the Cogeneration Plant (also known as the Energy Services Facility). In addition, several bottles of anhydrous ammonia are stored for use in case the urea system fails.
- Hazardous waste, stored at campus Environmental Services Facility building.

The Fine Arts programs use small amounts of the following:

- Solvents
- Paints
- Acids

Further, many chemical materials, some hazardous, are routinely used for instructional and research activities, and facilities maintenance during the course of campus operations. Virtually all buildings on the UCLA campus contain commercial products (e.g., cleaners, copier toners) that could qualify as “hazardous materials” under regulatory definitions. Non-household-type

hazardous materials used in teaching and research laboratories include chemical reagents, solvents, radioisotopes, and biohazardous substances. Facilities Management units (including grounds, custodian services, pest management, and craft shops) use a wide variety of commercial products formulated with hazardous materials. These include fuels, cleaners and degreasers, solvents, paints, lubricants, pesticides and herbicides, adhesives, and sealers.

Hazardous Materials and Chemical Use at the Project Sites

Each of the five project sites includes some type of landscaping or other vegetation cover, and pesticides and herbicides are directly applied to affected areas using methods that follow State and County laws and/or guidelines. Additionally, with the exception of the undeveloped Bradley site, each site is occupied by existing structures where standard household cleaning products are used. Following is a discussion of the other types of hazardous materials and chemicals used in operations at the four developed project sites.

- **Lot 15 Site.** The upper pad at the Lot 15 site is occupied by a surface parking lot (Lot 15), a portable office structure, and storage containers. The lower pad is currently occupied by a greenhouse and facilities used by the UCLA Housing and Facilities Management departments for storage of parts, material, and plants (Ornamental Horticultural Area buildings). There are currently no hazardous materials used or stored at this site. However, based on past uses of the site, and to characterize the soil in preparation for export from the site, soil sampling and testing was conducted at the Ornamental Horticulture Buildings J (greenhouse) and M ("Blue Goose").The soil samples were tested for organochlorine pesticides, chlorinated herbicides, organophosphorus pesticides, Title 22 Metals, and total petroleum hydrocarbons (TPH). The laboratory analysis detected arsenic, TPH as diesel and heavy hydrocarbons, and selected organochlorine pesticides (Chlordane, Dichlorodiphenyldichloroethane [DDD], Dichlorodiphenyldichloroethylene [DDE], Dichlorodiphenyltrichloroethane [DDT], and Dieldrin) above the respective Method Detection Limit (MDL). Of these, one sample, at a depth of one foot, had one analyte (arsenic) above its regulatory limit, in this case the limit for naturally occurring concentrations in Los Angeles County defined by the California Department of Toxic Substances Control (DTSC). The arsenic concentration at a depth of three feet in this location (B-3) was detected, but below the regulatory limit. All other detectable concentrations of tested analytes were below the applicable Regional Screening Level (RSL) for residential/industrial soil. Based on these results, supplementary soil testing for arsenic was performed in five locations near boring B-3. Arsenic was not detected in any of these samples (Citadel 2014a, 2015).
- **Warren Hall Site.** Warren Hall is occupied by offices, laboratories, and classrooms. A stand-alone greenhouse is located in the service courtyard, and the Hillblom Islet Research Center is located in the eastern portion of the site, adjacent to Warren Hall. There are also surface parking lots throughout the site. Hazardous materials previously and currently used and stored at this site are consistent with those identified above for medical treatment, research, and teaching laboratories on campus, including an animal vivarium. Notably, as part of ongoing research activities at Warren Hall since its construction in 1961, various radioactive and biohazardous materials have been used at the site, and there is an animal vivarium. Use and storage of these materials has been conducted in compliance with applicable regulations, as further discussed in Section 4.7.2, below. The Cobalt-60 vault used in association with the Radiation Oncology department was decommissioned in 2016, and all other radioactive materials and irradiator sources were decommissioned in 2014 (Acha 2017).
- **UNEX Site.** The existing UNEX building operates as the administration building for UCLA's Extension Program; therefore, this building is occupied largely with office space

with some classroom uses. These types of campus uses do not routinely handle, use, or dispose of hazardous materials, with the limited exceptions of standard cleaning products, and pesticides and/or herbicides, as discussed above.

- **Drake Stadium Site.** The Drake Stadium site is occupied primarily with ornamental landscaping with some hardscape (i.e., paved) areas and the stadium concourse. Hazardous materials use would also be limited to standard cleaning products and use of pesticides and/or herbicides.

Results of Hazardous Materials Site Database Review

Preparation of the March 2009 LRDP Amendment Final EIR included review of federal, State, and County hazardous waste databases compiled pursuant to Section 65962.5 of the *California Government Code,* as required by Section 21092.6 of the *California Public Resources Code.* Databases searched include, but are not limited to, the Leaking Underground Storage Tanks (LUST) List, the Hazardous Waste Substance List (Cortese List), the Emergency Response Notification System, and registered small or large hazardous waste generators on campus (summarized in Appendix F2 of the March 2009 LRDP Amendment Final EIR). The database review determined there are hazardous materials sites identified on campus, largely related to current or past underground storage tanks (USTs), medical and laboratory facilities, UCLA fleet and campus maintenance, and campus power generation and other mechanical facilities.

At the time of preparation of the Final EIR, there were three on-campus sites identified on the Cortese List and all are related to former localized areas of soil contamination in connection with LUSTs. All UST locations where spills or leaks previously occurred have been remediated and received regulatory closure. Regarding other hazardous materials databases, the Engineering IV building at 420 Westwood Plaza was identified on the State's UST database due to the presence of a diesel UST. USTs remaining in use on campus are permitted by the City of Los Angeles Fire Department (LAFD) and are subject to Uniform Fire Code requirements that reduce or eliminate the potential for fire and explosion and hazardous materials leaks through secondary containment, release detection, corrosion protection, and testing. In accordance with applicable federal, State, and local regulations and standards, all USTs are double-walled and equipped with leak-detection devices and anti-corrosion features.

A database review was conducted for the Kinross Building (adjacent to Lot 36 in the Southwest zone) by Environmental Data Resources, Inc. (EDR) in January 2016 (EDR 2016), which includes the project sites,[1] which are all within a one-mile search radius of the Kinross site. The project sites are not included on the list of known hazardous materials sites identified (including USTs that have subject to leaks or spills) or hazardous materials sites listed pursuant to Section 65962.5 of the *California Government Code* (i.e., the Cortese List), nor are any of the sites identified on any other database searched as part of the EDR Report. Additionally, as part of this Draft SEIR preparation, the current Cortese List data resources published on the California Environmental Protection Agency (CalEPA) website were reviewed. Consistent with previous database reviews, the project sites are not included on the Cortese List (CalEPA 2017). However, there are two properties near the UNEX site that are identified on the Cortese List, and are also identified in the 2016 EDR Report: (1) the Chevron Station at 10984 Le Conte Avenue, located approximately 60 feet to the south across Le Conte Avenue and (2) the former Shell Station (now demolished and remediated) at 900 Gayley Avenue, located approximately 110 feet to the southeast across the Le Conte Avenue/Gayley Avenue intersection. Both of these sites were listed due to LUST; were subject to regulatory oversight and remediation; and have received No Further Action letters from the oversight agency indicating that remediation is completed and the case is closed

[1] Approximately one-half of the Lot 15 site is within the one-mile search radius for the Kinross site.

(EDR 2016; CalEPA 2017). There are four additional sites/clusters of sites identified in the 2016 EDR Report within approximately ¼ mile of the UNEX and Warren Hall sites; all of these are related to operational permits for routine handling of hazardous materials, including a pharmacy, a dry cleaner, UCLA Medical School facilities, and Los Angeles Fire Station 37 (EDR 2016).

Asbestos/Lead/Polychlorinated Biphenyls/Mercury

As identified in the March 2009 LRDP Amendment Final EIR, substances such as asbestos, lead, polychlorinated biphenyls (PCBs), and/or mercury could be present in some buildings on campus (dependent on the age of the structure). Underground utility infrastructure may also contain asbestos.

The potential for the project sites to contain these substances, and State and federally mandated procedures relating to these substances is discussed below.

Asbestos

Asbestos, a naturally occurring fibrous material, was used for years in many building materials for its fire-proofing and insulating properties. While the use of asbestos in the manufacture of most building materials has not been fully prohibited by law, the use of asbestos, for the most part, has voluntarily been discontinued since the late 1970s. Loose insulation, ceiling panels, and brittle plaster are potential sources of friable (easily crumbled) asbestos. Non-friable asbestos is generally bound to other materials such that it does not become airborne under normal conditions. Any activity that involves cutting, grinding, or drilling during building renovation or demolition, or that involves relocation of underground utilities could release friable asbestos fibers, if present, unless proper precautions are taken. Inhalation of airborne fibers is the primary mode of asbestos entry into the body, which makes friable materials the greatest potential health risk.

Asbestos is a known human carcinogen, and there is no known threshold level of exposure at which adverse health effects are not anticipated. Given this, the U.S. Environmental Protection Agency (USEPA) and CalEPA have identified asbestos as a hazardous air pollutant pursuant to Section 12 of the Federal Clean Air Act. Further, the California Air Resources Board (CARB) has identified asbestos as a toxic air contaminant (TAC) pursuant to the *California Health and Safety Code* (Section 39650 et seq.). Because it is a hazardous air pollutant, asbestos is subject to regulation by the South Coast Air Quality Management District (SCAQMD) under Rule 1403. The Occupational Safety and Health Administration (OSHA) also regulates asbestos as a potential worker safety hazard.

On campus, the Asbestos Management Program is an ongoing activity of coordinating construction and maintenance activities with safe work practices involving asbestos. The Asbestos Management Program ensures safe work practices involving asbestos, including notifying applicable government agencies prior to beginning any renovation or demolition that could disturb asbestos and using safe work practices to eliminate or reduce the potential for release of asbestos fibers. In accordance with Sections 25915 through 25916 of the *California Health and Safety Code,* the UCLA Office Of Environment, Health and Safety (EH&S) maintains an inventory of on-campus buildings that could contain asbestos and provides annual campus-wide notification of these locations. Prior to disturbance, materials that are suspected of containing asbestos are tested for asbestos content. Inspection and sample collection is performed by EH&S or outside environmental consultants, and samples are analyzed by accredited laboratories. All asbestos-containing materials are removed by licensed Asbestos Abatement Contractors or by trained UCLA Facilities Management staff using work practices and engineering controls that have been designed to reduce the potential for fiber release. This

program also requires medical examinations and monitoring of employees engaged in activities that could disturb asbestos.

With respect to the project sites, studies completed for the structures at Lot 15 (Ornamental Horticultural buildings, constructed in 1958 and 1975, respectively) confirm the presence of ACMs (Citadel 2014a, 2014b). Eight of the nine samples that tested as an ACM (asbestos present in quantities greater than one percent) were located in building J, in various materials including pipe fitting insulation, pipe straight runs, window mastic, floor tile mastic, and roof mastic; one sample tested as an ACM in building M, taken from the floor tile mastic. Additionally, the roof penetration mastic and roof seam sealant in building M is a presumed ACM (Citadel 2014a). ACMs are also expected to be present in the building materials at Warren Hall (constructed in 1961), the UNEX building (constructed 1971), and Drake Stadium (constructed in 1969). It is also possible that transite pipe is located at the five project sites; transite pipe is an asbestos-cement product used in some utility lines. The use of asbestos to manufacture transite pipe was phased out in the 1980s.

Lead

Lead is a naturally occurring metallic element. Among its numerous uses and sources, lead can be found in paint; water pipes, solder in plumbing systems; soils around buildings; and structures painted with LBP. In 1978, the Consumer Products Safety Commission banned paint and other surface coating materials containing lead. Because of its toxic properties, lead is regulated as a hazardous material. Lead is also regulated as a toxic air contaminant. Lead may pose a hazard if it is disturbed during demolition or other construction activities and not properly contained or removed.

In California, lead and asbestos abatement must be performed and monitored by contractors with appropriate certifications from the California Department of Health Services (DHS). In addition, the California Occupational Health and Safety Administration (CalOSHA) has regulations to protect worker safety during potential exposure to lead and asbestos under Title 8 of the *California Code of Regulations* (Section 1529, Asbestos, and Section 1532.1, Lead). Demolition that could result in the release of asbestos and lead must be conducted according to CalOSHA standards. These standards were developed to protect the general population and construction workers from respiratory and other hazards associated with exposure to these materials. Young children, the elderly, and people in poor health may be more susceptible to adverse health effects from exposure to asbestos released to the environment.

On campus, UCLA has instituted a Lead Compliance Program. This program is directed at reducing lead exposure to members of the UCLA community through education, inspection, testing, and removal. Painted surfaces are tested for lead content and the hazard level is assessed prior to disturbance. Inspection and sample collection is performed by EH&S or outside environmental consultants. EH&S maintains a database and construction documentation with respect to buildings painted with lead-based paint. Those materials identified with high lead content are removed using work practices and engineering controls that have been designed to reduce environmental exposure to lead dust.

With respect to the project sites, studies completed for the structures at Lot 15 confirm the presence of LBP (Citadel 2014a, 2014b). A total of five building components were identified as having LBP, including walls, door frames, windows, and fascia (Citadel 2014a). LBP is also expected to be present at Warren Hall, the UNEX building, and Drake Stadium.

PCBs

PCBs are a class of organic compounds known as chlorinated hydrocarbons and were widely used for many applications, especially as dielectric fluids in transformers and capacitors and coolants from the 1920s to the 1970s. PCBs were also used as plasticizers and additives in lubricating and cutting fluids. Due to PCBs' toxicity and classification as persistent organic pollutants, PCB production was banned by the United States Congress in 1976. Products made before 1977 that may contain PCBs include old fluorescent lighting fixtures and electrical devices (PCBs were used as a coolant in electrical equipment); PCB capacitors; and old microscope and hydraulic oils. PCBs are no longer commercially made in the United States, but many electric transformers and capacitors once filled with PCBs are still in service.

Some equipment containing PCBs may still be present in research labs, including Warren Hall, but all on-campus electrical transformers containing PCBs have been removed. Each lab or department is responsible for removing hazardous waste, including PCB-containing materials, prior to vacating a work area. The On-Campus Project Manager assigned to each construction or renovation project would verify that those removals take place. It should be noted that during the 2014 soil sampling, Citadel noted the presence of used electrical transformers in building M that were leaking fluid onto the concrete floor (Citadel 2014a, 2014b); because transformers containing PCBs have been removed from the campus, the leaking fluid does not likely include PCBs. With the exception of the undeveloped Bradley site, the project sites could potentially have PCB-containing materials primarily associated with older electrical equipment. Warren Hall is the only site with potential PCBs associated with research facilities/laboratories.

Mercury

Elemental mercury, an insoluble liquid metal, is commonly used in laboratory and medical equipment, such as thermometers and manometers (used for measuring pressure), electrical equipment, and some water pumps. Mercury may pose a hazard if it is not properly contained and removed prior to the initiation of construction activities that may disturb mercury-containing equipment. Each lab or department is responsible for removing hazardous waste, including mercury-containing materials, prior to vacating a work area. The On-Campus Project Manager assigned to each construction or renovation project would verify that those removals take place.

Based on previous and current research and laboratory uses at Warren Hall, there is a possibility that mercury has been used at this site. None of the remaining four project sites are expected to contain materials with mercury.

Radioactive Materials

Because radioactive materials emit ionizing radiation, and their presence can be detected easily, researchers and health care professionals use radioactive materials to study various biochemical functions in animals and humans. Drugs containing radioisotopes are also used in medicine and research. Limited types and quantities of radioisotopes are also used in research laboratories.

Exposure to ionizing radiation can result in adverse human health effects that range from short-term mild symptoms (such as sunburn) to serious illness or death, depending upon the amount and concentration of the radioactive source and the duration of the exposure. The extent to which exposure would result in any adverse effects depends on the radioisotope and the amount and duration of exposure. Like all hazardous materials, the effects of the routine use of radioactive materials are limited to areas where exposure may occur and they decrease substantially with distance. For this reason, the individuals most at risk would be those specially trained in the use of radioactive materials, which would reduce the likelihood for accidental

exposure of the general public through improper handling techniques. Furthermore, individuals who handle radioactive material above certain procedural limits are required to wear a personal monitor that determines their cumulative exposure to radiation.

The Atomic Energy Act (AEA, *United States Code* [U.S.C.] Title 42, Sections 2011–2259) ensures the proper management of source, special nuclear, and by-product material. The AEA, and the statutes that amended it, delegate the control of nuclear energy primarily to the Department of Energy, the Nuclear Regulatory Commission, and the USEPA. The California Radiation Control Law (*California Health and Safety Code,* Sections 114960–114985) is a regulatory program designed to provide for compatibility with the federal standards and regulatory programs and to integrate an effective system of regulation in the state.

The use of radioactive materials on campus is specifically subject to the conditions of a Broadscope Radioactive Materials License issued and administered by the Radiologic Health Branch of the California Department of Health Services. Under the Broadscope License, renovation or demolition of facilities using radioactive material requires decommissioning of the facilities. This involves radiation testing and conducting decontamination and waste handling activities in accordance with applicable regulations. At UCLA, the Radiation Safety Committee and Medical Radiation Safety Committee are responsible for the use of radioactive materials and radiation-producing machines for nonhuman and human uses, respectively. The UCLA EH&S Radiation Safety Division ensures that the University is in compliance with the programs, practices, and procedures of the two committees, as well as Title 17 of the *California Code of Regulations* and conditions of the UCLA Broadscope Radioactive Materials License. Warren Hall is the only project site that involved previous use of radioactive materials.

Various fire/life safety devices used in residential, industrial, and commercial buildings utilize low-energy radioactive sources such as Americium-241 and Tritium. Common applications are ionization smoke detectors and self-luminous exit signage. While low-energy radioactive devices pose little or no threat to public health, they are subject to certain reporting, handling, and transfer requirements, including proper disposal of unwanted or unused signs as specified by the general licensing agreements of the U.S. Nuclear Regulatory Commission (NRC). Under the licensing agreement, a general licensee must properly dispose of such products; report to the NRC any lost, stolen, or broken devices; and transfer unwanted devices to a specific licensee such as a manufacturer, distributer, licensed radioactive broker, or a low-level radioactive waste disposal facility. These types of devices could potentially occur at each of the developed sites (Lot 15, Warren Hall, UNEX and Drake Stadium).

Biohazardous Materials

By statutory definition, biohazardous materials include biohazardous laboratory wastes and biologic specimens such as human or animal tissue, as defined by Section 117635 of the *California Health and Safety Code.* Medical wastes must be managed as biohazardous material.

The U.S. Department of Health and Human Services (DHHS), the Centers for Disease Control and Prevention, and the National Institutes of Health prescribe containment and handling practices for use in microbiological, biomedical, and animal laboratories. Biohazardous medical waste is generally regulated in the same manner as hazardous waste, except that special provisions apply to storage, disinfection, containment, and transportation. The California Department of Public Health (CDPH) Medical Waste Management Program enforces the Medical Waste Management Act and related regulations.

All UCLA laboratories follow mandated hygienic practices, and UCLA has developed programs, practices, and procedures (PPs) for monitoring, routinely inspecting, reporting, and managing

waste to reduce community and worker exposure to potential hazards associated with medical wastes and biological hazards. UCLA follows guidelines promulgated by the DHHS, which determine the level of safety precautions that must be used for four tiers of relative hazards.

With the exception of Warren Hall, biohazardous materials have not been used at the project sites.

Universal Wastes

California's Universal Waste Rule (*California Code of Regulations* [CCR], Title 22, Section 66273 et. seq.) allows individuals and businesses to transport, handle, and recycle seven categories of hazardous wastes (called universal wastes) in a manner that differs from the requirements for most hazardous wastes. Universal wastes include, but are not limited to, televisions; computers and other electronic devices; and batteries, fluorescent lamps, mercury thermostats, and other mercury-containing equipment. The more relaxed and simplified requirements for managing universal wastes were adopted to ensure they are safely managed and not disposed of in the trash (DTSC 2010).

Handling and Disposal of Hazardous Materials

The CalEPA and the California DTSC regulate the generation, transportation, treatment, storage, and disposal of hazardous waste under the Resource Conservation and Recovery Act (RCRA) and the California Hazardous Waste Control Law. Both laws impose "cradle-to-grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment.

The campus is registered with the CalEPA as a generator of hazardous waste. The campus does not treat, store (for longer than 90 days), or dispose of hazardous chemical waste on site. EH&S manages the collection of waste from campus generator sites and oversees the storage, packaging, and disposal of these materials. Small amounts of spent hazardous materials generated on a regular basis in laboratories and maintenance facilities are placed in special containers and are kept in ventilated accumulation areas. In addition, UCLA must file reports with the State detailing waste disposal and recycling activities in addition to paying annual hazardous waste taxes based on volumes of waste disposed. Hazardous waste is disposed of at licensed disposal facilities in California and other states. Refer to Section 4.6, Hazards and Hazardous Materials, of the 2009 LRDP Amendment Final EIR for a detailed discussion of hazardous waste management on campus.

Campus Emergency Response and Evacuation Plans

Under the Hazardous Materials Release Response Plan and Inventory Law (*California Health and Safety Code,* Sections 25500–25520), which became effective for the University of California and other public agencies on January 1, 1990, UCLA has prepared a Business Plan that contains information about the location of, and emergency procedures for, campus buildings in which hazardous materials are handled. The LAFD administers the Business Plan requirements for UCLA and other private and public entities subject to this law. UCLA and the LAFD agreed upon the format and contents of the UCLA Business Plan in June 1989.

In addition to the Business Plan, UCLA has also prepared for emergency response and evacuation on campus. Currently, this information is disseminated by a website and mobile apps administered by the UCLA Office of Emergency Management (OEM); these resources replace and supersede the written Campus Emergency Response Plan (plan). Like the plan, the OEM's resources cover a broad range of emergency situations related to both human-made and natural

disasters. The website is the OEM homepage, which provides links to further information on emergency procedures, training and programs, BruinAlert, and Bruins Safe Online. Training and programs for faculty, staff, and/or students, offered by the campus include, but are not limited to, participation in the Campus Emergency Operations Group and the UCLA Warden Program, Community Emergency Response Team training, and new employee orientation. Bruins Safe Online would be updated by the UCLA Emergency Operations Center, and is intended to be the official resource during an emergency. In addition to the website, the OEM has released the UCLA Bruins Safe mobile app for iOS and Android; the app will send safety alerts, provide a way to contact safety staff, and provide instantaneous access to campus safety resources. The LAFD also provides hazardous materials incident emergency response services to UCLA.

The campus evacuation area for the Lot 15 and Bradley sites is the Sunset Recreation Center, located to the north of both sites at 111 Easton Drive; for the Warren Hall site is Parking Lot 36, located to the south near the terminus of Weyburn Place at Kinross Avenue; for the UNEX site is the Mathias Botanical Garden, located to the east at 777 Tiverton Drive; and for the Drake Stadium site is the adjacent Drake Stadium (UCLA EH&S 2016).

Ronald Reagan UCLA Medical Center Helistop

The Ronald Reagan UCLA Medical Center (RRUCLAMC) (opened in June 2008) operates a helistop (with two helipads) located on top of the ten-story medical center facility. As identified in the March 2009 LRDP Amendment Final EIR, the RRUCLAMC helistop receives a very limited number flights (average of two flights per day). In addition, as a condition of the California Department of Transportation (Caltrans) Aeronautics Heliport Permit for each pad, two helicopters cannot arrive and/or depart simultaneously. Operations are further limited to emergency patient transport and support of the organ transplant program. Non-emergency flights are not allowed. The Caltrans Aeronautics Heliport Permit also requires the RRUCLAMC to contact the Caltrans Division of Aeronautics should structures be proposed that would penetrate the established 8:1 approach/departure surface (8 feet horizontal to 1 foot vertical), as depicted on the Helistop Layout Plan included with the permit. Note that this does not prohibit taller structures; it only requires notification to Caltrans if they would impact the approach/departure surface. Under these circumstances, the affected portion of the approach/departure path arc for the helistop would be closed.

4.7.2 PROJECT IMPACTS AND MITIGATION

Methods

The analysis in this section focuses on the use, generation, disposal, transport, and/or management of hazardous or potentially hazardous materials on campus, both during construction and operation of the proposed housing projects. The probability for risk of upset, and potential impacts associated with the increased use, handling, transport, and/or disposal of hazardous materials associated with implementation of the proposed Project are analyzed. Risks associated with proximity to a helispot on campus are also analyzed.

Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, a project will normally have a significant adverse environmental impact related to hazards and hazardous materials if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Campus Programs, Practices, and Procedures Carried Forward from the March 2009 LRDP Amendment Final EIR

The following Programs, Practices, and Procedures (PPs) were adopted as part of the March 2009 LRDP Amendment Final EIR and are incorporated as part of the proposed Project and assumed in the analysis presented in this section.

PP 4.6-1 *The campus shall continue to implement the same (or equivalent) health and safety plans, programs, practices, and procedures related to the use, storage, disposal, or transportation of hazardous materials during the LRDP Amendment planning horizon, including, but not necessarily limited to, the Business Plan, Hazardous Materials Management Program, Hazard Communication Program, Injury and Illness Prevention Program, Chemical Exposure Monitoring Program, Asbestos Management Program, Respiratory Protection Program, EH&S procedures for decommissioning and demolishing buildings that may contain hazardous materials, and the Broadscope Radioactive Materials License. These programs may be subject to modification as more stringent standards are developed or if the programs become obsolete through replacement by other programs that incorporate similar health and safety protection measures.*

PP 4.6-4 *While not expected to occur on-campus, if contaminated soil and/or groundwater is encountered during the removal of on-site debris or during excavation and/or grading activities, the construction contractor(s) shall stop work and immediately inform the EH&S. An on-site assessment shall be conducted to determine if the discovered materials pose a significant risk to the public or construction workers. If the materials are determined to pose such a risk, a remediation plan shall be prepared and submitted to the EH&S to comply with all federal and State regulations necessary to clean and/or remove the contaminated soil and/or groundwater. Soil remediation methods could include, but are not necessarily limited to, excavation and on-site treatment, excavation and off-site treatment or*

disposal, and/or treatment without excavation. Remediation alternatives for cleanup of contaminated groundwater could include, but are not necessarily limited to, on-site treatment, extraction and off-site treatment, and/or disposal. The construction schedule shall be modified or delayed to ensure that construction will not inhibit remediation activities and will not expose the public or construction workers to significant risks associated with hazardous conditions.

In addition, PPs 4.13-5 and 4.13-8, which address emergency access, are also incorporated into the proposed Project and are assumed in the analysis of potential hazards.

PP 4.13-5 *To the extent feasible, the campus shall maintain at least one unobstructed lane in both directions on campus roadways. At any time only a single lane is available, the campus shall provide a temporary traffic signal, signal carriers (i.e., flagpersons), or other appropriate traffic controls to allow travel in both directions. If construction activities require the complete closure of a roadway segment, the campus shall provide appropriate signage indicating alternative routes.*

PP 4.13-8 *To ensure adequate access for emergency vehicles when construction projects would result in temporary lane or roadway closures, UCLA shall consult with the UCPD, EH&S, and the LAFD to disclose temporary lane or roadway closures and alternative travel routes.*

Impact Analysis

Threshold 7.1	Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
Threshold 7.2	Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Construction-Related Hazards

Building Materials

The analysis of Impact 4.6-2 in Section 4.6, Hazards and Hazardous Materials, of the March 2009 LRDP Amendment Final EIR identified that demolition and renovation of existing buildings on the UCLA campus could release hazardous materials if ACMs, LBP, PCBs, and/or mercury-containing equipment are present in the structure(s). The 2009 LRDP Amendment Final EIR concluded that, with implementation of PP 4.6-1, there would be a less than significant impact related to the exposure of the public and/or construction workers to hazards and hazardous materials during construction.

As previously discussed, with exception of the potential presence of transite pipe, no hazardous or otherwise controlled materials are anticipated to be encountered during construction activities at the Bradley site.

Based on site specific studies completed, there are ACMs and LBP present at the Lot 15 site (buildings J and M). ACMs and LBP are also expected to be present within interior and/or exterior materials and surfaces at Warren Hall (constructed in 1961), UNEX (constructed in 1971), and

Drake Stadium (constructed in 1969). Demolition of buildings or building materials with such materials can expose construction personnel to ACMs and LBP released into the air unless proper precautions are taken to minimize exposure. Activities that involves cutting, grinding, or drilling during building renovation or demolition or relocation of underground utilities where these materials are present could release friable asbestos fibers or lead dust and expose construction personnel unless proper precautions are taken. Because exposure to such materials can result in adverse health effects in uncontrolled situations, several regulations pertaining to abatement, handling, and disposal of ACMs/asbestos-containing construction materials (ACCMs) and lead-containing paint (LCP)/LBP have been developed. Per PP 4.6-1, the UC EH&S procedures require that all applicable federal, State, and local regulations as well as UCLA's Asbestos Management Program and Lead Compliance Program, discussed previously, be implemented during construction activities.

As previously identified, PCBs can be present in items such as light fixture ballasts, control consoles, and circuit breakers. Universal/electronic/radioactive wastes consist of items such as fluorescent light tubes, mercury ampoules in pneumatic controls, switchboards, gauges, batteries, and thermostats; electronic waste (e.g., cathode ray tube [CRT] devices such as televisions and computer monitors); and radioactive materials (i.e., smoke detectors and exit signage). There are no PCB-containing building materials at the Lot 15 site (buildings J and M) (Citadel 2014a). However, the Lot 15 buildings were documented as including universal/electronic/radioactive wastes, including fluorescent light tubes (greenhouse/building J only), thermostats, light bulbs/fixtures, light ballasts, and smoke alarms/detectors. Additionally, it is anticipated that PCB-containing equipment and/or universal/electronic/radioactive wastes are present at the UNEX, Warren Hall, and Drake Stadium sites. During demolition activities, the contractor will typically dismantle fluorescent light fixtures by removing the tubes and then the ballasts and packaging them for recycling and disposal, regardless of the ballast labeling (i.e., whether or not PCBs are known to be present). The recommended disposal method for ballasts is recycling/incarceration whereby the PCB-containing components are removed and incinerated and the metal carcasses are cleaned to be sent to a metal recycler. The UCLA contractor would be required to manage all universal wastes identified in the buildings in compliance with the California Universal Waste Rule, discussed previously.

Compliance with federal and State health and safety laws and regulations, as well as continued implementation of existing (or equivalent) campus PPs, as required by PP 4.6-1, would ensure a less than significant impact associated with the potential release of hazardous building materials during construction and demolition activities. Consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be a less than significant impact. No project-specific mitigation is required.

Contaminated Soil and/or Groundwater

The analysis of Impact 4.6-4 in Section 4.6, Hazards and Hazardous Materials, of the March 2009 LRDP Amendment Final EIR concluded that implementation of the remaining development allocation on campus would not create a significant risk of exposing campus occupants and/or construction workers to contaminated soil or groundwater. PP 4.6-4 is incorporated into the proposed Project and further reduces this less than significant impact.

Based upon review of documented hazardous materials sites as part of the March 2009 LRDP Amendment Final EIR (provided as Appendix F of the March 2009 LRDP Amendment Draft EIR), and updated database searches discussed previously, there is no known contaminated groundwater on campus, including the project sites. As identified in the 2009 LRDP Amendment Final EIR, the campus has never had a documented instance of contaminated groundwater caused by construction or operational activities; however, there is always the potential for

previously undiscovered USTs, potential soil contamination, or other undetected groundwater contamination to be exposed as a result of construction activities. In the event that previously undiscovered additional USTs are uncovered or disturbed, they would be closed in place or removed in accordance with applicable State regulations.

With respect to groundwater, four sites have undergone Preliminary Geotechnical Investigations, which included assessments of the depth to groundwater. Groundwater was not encountered at the Lot 15 site to the maximum depth explored of 65 feet below ground surface (bgs), and groundwater or groundwater seepage was encountered at depths between approximately 30.0 feet and 60.7 feet bgs at the Warren Hall (60.7 feet bgs), UNEX (47.2 feet bgs), and Bradley (37.0 feet bgs) sites (Geocon 2017, 2016a, 2016b, 2016c). As demonstrated by the results of the Preliminary Geotechnical Investigations, groundwater levels across the campus vary, but are generally at depths of at least 30 feet bgs. Based on the depths to groundwater or groundwater seepage and locations of planned subterranean excavations (only at the Lot 15 and Bradley sites), the Preliminary Geotechnical Investigations concluded that it is not likely that groundwater would be encountered during construction of the proposed student housing on the Lot 15, Warren Hall, and UNEX sites; however, groundwater seepage may be encountered during construction at the Bradley site (Geocon 2017, 2016a, 2016b, 2016c).

With respect to contaminated soils, based on the potential for residual pesticides and herbicides associated with previous horticultural activities, and to characterize the soil in preparation for export from the site, soil sampling and testing was conducted at the ornamental horticulture buildings J (greenhouse) and M ("Blue Goose"). As discussed previously, soil sampling and testing at the Lot 15 site identified one sample at a depth of one foot that had a concentration of arsenic above its regulatory limit. The arsenic concentration at a depth of three feet in this location (B-3) was detected, but below the regulatory limit. Based on these results, supplementary soil testing for arsenic was performed at five locations near boring B-3. Arsenic was not detected in any of these samples. Based on these results, classification of soils to be exported from the Lot 15 site is non-hazardous (Citadel 2014a, Citadel 2015). No impacts related to known hazardous materials at the Lot 15 site would result.

However, during site reconnaissance performed as part of the soil sampling effort, used electrical transformers in building M were observed to be leaking fluid onto the concrete floor. The report recommended that the fluid should be sampled and analyzed to determine if hazardous materials have been released from the transformers (Citadel 2014a). UCLA removed all PCB-containing transformers from campus more than 20 years ago (Marks 2017), as such it is not expected that the fluid represents a release of PCBs. Regardless, MM HAZ-1 requires that sampling and laboratory analysis be conducted prior to initiation of demolition activities in building M to determine whether any hazardous substance is present in the fluid or affected media (i.e., concrete floor and soil underlying the floor), and requires appropriate remediation of materials affected by the fluid if it is determined a hazardous material is present, and requires that evidence that there are no concentrations of any hazardous substance remaining after remediation (if necessary) above the U.S. Environmental Protection Agency's Regional Screening Levels for residential use applicable to the identified substance. With implementation of project-specific MM HAZ-1 at the Lot 15 site, potentially significant impacts related to potential contamination from the observed leaking transformer would be less than significant.

As discussed previously, Warren Hall is the only project site that has previously, or currently, involved the handling of radioactive or biohazardous materials and/or wastes associated with research or other activities occurring at the building. Radioactive materials and irradiator sources previously at the Warren Hall site have been appropriately decommissioned consistent with the requirements of Title 17 of the *California Code of Regulations* and conditions of the UCLA Broadscope Radioactive Materials License. Section 30100(c) of 17 CCR defines decommission

as “to remove safely from service and reduce residual radioactivity to a level that permits release of the property for unrestricted use and termination of the license.” As discussed above, biohazardous materials are managed consistent with guidelines promulgated by the DHHS and the Medical Waste Management Act (Sections 117600-118360 of the *California Health and Safety Code*), administered by the CDPH. Pursuant to PP 4.6-1, Warren Hall, as a past and current medical and biological research facility, would be decommissioned and demolished consistent with UCLA procedures for buildings that contain hazardous materials. With implementation of PP 4.6-1 at the Warren Hall site, potentially significant impacts related to past and/or current use of radioactive and biohazardous materials would be less than significant. There is no known potential for the presence of contaminated soil or groundwater at the UNEX, Bradley or Drake Stadium housing sites. However, as required by PP 4.6-4, if any previously unidentified contaminated soil and/or groundwater is discovered at any of the project sites, all construction activities will stop and an assessment will be made of the nature and extent of contamination and the type (if any) of remediation that is required. The primary purpose of PP 4.6-4 is to ensure that the exposure of contaminated soil and/or groundwater or the remediation activities, if necessary, would not expose the public or construction workers to hazardous conditions.

Consistent with the findings of the March 2009 LRDP Amendment Final EIR, continued compliance with all applicable federal, State, and local laws and regulations, as well as incorporation of PP 4.6-4, would ensure that impacts associated with the exposure of contaminated soil or groundwater are less than significant, and no project-specific mitigation is required.

Operational Hazards

The analysis of Impacts 4.6-1 and 4.6-3 in Section 4.6, Hazards and Hazardous Materials, of the March 2009 LRDP Amendment Final EIR concluded that, with implementation of PP 4.6-1, implementation of the remaining development allocation on campus would have a less than significant impact during long-term operations related to public exposure to hazards from (1) the routine transport, use, or disposal of hazardous materials and (2) a reasonably foreseeable upset and accident condition involving the release of hazardous materials.

The LRDP Final EIR identified that implementation of the remaining development allocation contemplated by the 2002 LRDP, as amended in March 2009, would result in the potential development of additional laboratories and other research facilities that would use, store, and/or require the transportation and disposal of hazardous materials as well as a limited increase in the average weekday on-campus population that could be exposed to hazardous materials risks. Hazardous materials used on campus are discussed in Section 4.6.2 of the March 2009 LRDP Amendment Final EIR.

The proposed Project involves the development of on-campus student housing and associated support facilities at five sites on campus; it would not involve the development of new laboratories, research facilities, or other sources of new or increased handling of hazardous materials. There would also be no change in how hazardous materials are handled, stored, transported, or disposed of on and off campus, and the potential for accidents involving hazardous materials would not increase. Operations associated with the proposed student housing would be consistent with the existing housing on and off campus. The types of hazardous materials that could be used in association with the proposed housing projects would not require disposal. Cleaning products would be disposed of either through the wastewater system (i.e., sinks, laundry) or evaporation. Neither chlorine nor standard cleaning products (i.e., degreasers, window-cleaning products) are used in quantities that would result in adverse health effects either through direct exposure to the skin or inhalation. Pesticides and herbicides are directly applied to affected areas using methods that follow State and County laws and/or guidelines.

The potential for accidents involving hazardous materials would not increase with implementation of the proposed housing projects. Additionally, operation of the proposed housing projects would comply with applicable federal, State, and local laws and regulations and with the existing UCLA programs, practices, and procedures required by PP 4.6-1 identified above (and described in detail in Section 4.6.2 of the March 2009 LRDP Amendment Final EIR). Therefore, operation of the proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazards materials; there would be a less than significant impact.

Additional Project-Level Mitigation Measures

Lot 15 Only

MM HAZ-1 Prior to initiation of demolition activities at building M on the Lot 15 site, samples from the area where fluids have leaked from an existing transformer onto concrete shall be collected and submitted for laboratory analysis to determine whether any hazardous substance is present in the media sampled, which would include the fluid (surface wipe sample), concrete floor (bulk sample or core), and/or soil (bulk sample) underlying the concrete. If a hazardous substance is are detected, a Remediation Plan shall be prepared and submitted to the Office of Environment, Health, and Safety (EH&S) to comply with all federal and State regulations necessary to clean and/or remove the affected media. The transformer, any concrete that has come into contact with the fluid (as evidenced by staining), and, if applicable, soil impacted by the fluid shall be removed/excavated and disposed of in an appropriate facility, possibly as hazardous waste depending on the concentrations of the substance present in the impacted media. Evidence that there are no concentrations of the identified substance(s) above the U.S. Environmental Protection Agency's Regional Screening Levels (RSLs) for residential use applicable to the substance(s) shall be provided to EH&S before demolition of building M begins.

Level of Significance After Mitigation

The proposed Project would have a less than significant impact related to the routine transport, use, and disposal of hazardous materials and a less than significant impact from the potential release of hazardous materials during construction, limited to encountering unknown subsurface contamination, with implementation of MM HAZ-1.

Threshold 7.3	Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The analysis of Impact 4.6-5 in Section 4.6, Hazards and Hazardous Materials, of the March 2009 LRDP Amendment Final EIR concluded that there would be a less than significant impact related to handling of hazardous materials in proximity to an existing school with implementation of PP 4.6-1. Specifically, the LRDP Final EIR concluded that implementation of the remaining development allocation on campus could require the handling of hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school. However, these materials would not exist in quantities significant enough to pose a risk to occupants of the school

or the campus community, as established through the analysis presented for Impacts 4.6-1 through 4.6-4 of the March 2009 LRDP Amendment Final EIR (UCLA 2009).

Existing schools within or in proximity to the campus include the UCLA Lab School (Lab School, also known as the Corinne A. Seeds University Elementary School), Fernald Child Development Center (adjacent to the elementary school), and the Infant Development Program (Franz Hall), all located in the Core campus zone; Marymount High School (located off campus just north of Sunset Boulevard); and the Krieger Childcare Center, located in the Northwest zone. Table 4.7-1 summarizes the distance and direction of each of these schools from each of the five project sites. All measurements are taken at the two closest points of each site boundary and each school campus.

TABLE 4.7-1
SUMMARY OF SCHOOLS IN THE PROJECT VICINITY

School	Distance and Direction to Site (miles)				
	Lot 15 Site	**Warren Hall Site**	**UNEX Site**	**Bradley Site**	**Drake Stadium Site**
UCLA Lab School	0.50 SW	0.85 SW	0.80 SW	0.45 SW	0.30 WSW
Fernald Child Development Center	0.55 WSW	0.95 SW	0.90 SW	0.55 SW	0.35 WSW
Infant Development Program	0.70 NW	0.65 SW	0.55 SW	0.40 W	0.45 NW
Marymount High School	0.40 SW	0.75 SW	0.70 SW	0.35 SW	**0.15 SW**
Krieger Childcare Center	**0.15 S**	0.90 SSE	0.85 SSE	0.50 SE	0.40 SE

N: north, E: east, S: south, W: west
Note: Schools within ¼-mile of a site are in bold.

As shown, there are two instances of a project site within ¼ mile of the nearest school—the Drake Stadium site approximately 0.15 mile southwest of Marymount High School and the Lot 15 site within approximately 0.15 mile south of the Krieger Childcare Center. Regardless, the proposed development at these sites consists solely of residential and support uses, which would not handle acutely hazardous materials, substances, or wastes. As discussed under Thresholds 7.1 and 7.2, the proposed housing projects would not involve hazardous emissions or handling hazardous or acutely hazardous material, substances, or waste except during demolition and as expressly governed by federal and State regulations (PP 4.6-1 and MM HAZ-1).

Toxic air emissions would be generated by the new heating, ventilation, air conditioning, and emergency generator equipment associated with the new student housing structures. As further addressed in Section 4.2, Air Quality, of this Draft SEIR, the proposed Project would not generate toxic air emissions that result in excess human cancer risk from stationary sources. Therefore, the proposed Project would result in a less than significant impact related to hazardous emissions in the vicinity of a school, and no additional project-specific mitigation is required.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have a less than significant impact related to handling hazardous materials within a ¼ mile of a school.

Threshold 7.4	Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?

The analysis of Impact 4.6-6 in Section 4.6, Hazards and Hazardous Materials, of the March 2009 LRDP Amendment Final EIR determined that there would be a less than significant impact related to construction of facilities on sites containing hazardous materials with implementation of PP 4.6-1 (UCLA 2009).

As previously identified above under the discussion of "Results of Hazardous Materials Site Database Review", the project sites are not on any hazardous materials sites on the Cortese List. However, there are two properties near the UNEX site that are identified on the Cortese List: (1) the Chevron Station at 10984 Le Conte Avenue, located approximately 60 feet to the south across Le Conte Avenue and (2) the former Shell Station (now demolished and remediated) at 900 Gayley Avenue, located approximately 110 feet to the southeast across the Le Conte Avenue/Gayley Avenue intersection. Both of these sites were listed due to LUSTs; were both subject to regulatory oversight and remediation; and both have received No Further Action letters from the oversight agency indicating that remediation is completed and the case is closed (EDR 2016; CalEPA 2017). Therefore, these two sites do not represent a risk of subsurface contamination at the UNEX site. There are four additional sites/clusters of sites identified in the 2016 EDR Report within approximately ¼ mile of the Warren Hall and UNEX sites; all of these are related to operational permits for routine handling of hazardous materials, including a pharmacy, a dry cleaner, UCLA Medical School facilities, and Los Angeles Fire Station 37 (EDR 2016). Therefore, there would be no impact related to implementation of the proposed housing sites on a hazardous materials site that could create a significant hazard to the public or environment.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

There are no identified hazardous materials sites located in the project area that could create a significant hazard to the public or the environment during construction; therefore, impacts would be less than significant related to a significant hazard to the public or the environment.

Threshold 7.5	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
Threshold 7.6	For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Based on the Initial Study prepared for the March 2009 LRDP Amendment Draft EIR, implementation of the remaining development allocation on campus was determined to have no impact related to public use airports and was not carried forward for further discussion in the Draft EIR. Specifically, the UCLA campus is not located within two miles of a public airport or public use airport and has not been included in an airport land use plan (UCLA 2009).

The analysis of Impact 4.6-7 in Section 4.6, Hazards and Hazardous Materials, of the March 2009 LRDP Amendment Final EIR concluded there would be a less than significant impact related to the safety of people residing or working on campus from helistop operations at the RRUCLAMC. The RRUCLAMC operates a helistop (with two helipads) under a Caltrans Aeronautics Heliport Permit. The helistop is located on top of the ten-story facility and receives a very limited number of flights (average of two flights per day) limited to emergency patient transport and support of the organ transplant program (UCLA 2009).

There are no private airstrips near the project sites; however, as previously discussed, the RRUCLAMC-operated helistop (with two helipads) receives an average of two flights per day. The RRUCLAMC lies at an elevation of approximately 355 feet above msl. However, the RRUCLAMC helipads are located on top of the 10-story building from which the 8:1 approach/departure surface (8 feet horizontal to 1 foot vertical) is determined; the elevation at the helipad is approximately 150 feet above ground level, or at an elevation of approximately 505 feet above msl. Table 4.7-2 summarizes the distance of each project site to the RRUCLAMC helistop; the maximum building height possible without encroaching into the approach/departure surface; and the proposed maximum building height. All measurements are taken at the two closest points of each site boundary, rather than the planned building location, and the nearest point of a helipad.

TABLE 4.7-2
RONALD REAGAN UCLA MEDICAL CENTER HELISTOP
AND PROPOSED BUILDINGS

	Distance and Direction to Site (miles)	Building Elevation that Would Encroach the Approach/Departure Surface (feet above msl)	Proposed Maximum Building Elevation (feet above msl)
Lot 15 Site	0.5 NW	853	591.5
Warren Hall Site	0.3 SW	695	509
UNEX Site	0.2 SW	640	565
Bradley Site	0.2 NW	620	467
Drake Stadium Site	0.3 NW	721	545
N: north, E: east, S: South, W: west, msl: mean sea level Source of relative location data: Google Earth 2017.			

As shown in Table 4.7-2, the maximum elevations of the proposed structures would not reach or exceed the maximum possible elevations. The closest any structure would be to this limit is the UNEX site, which would be approximately 80 feet from the approach/departure surface at this location. Therefore, the proposed housing projects would not penetrate the established 8:1 approach/departure surface (8 feet horizontal to 1 foot vertical), consistent with existing conditions and the requirements of the Caltrans Aeronautics Heliport Permit. Also, implementation of the proposed Project would not increase the number or frequency of medical helicopter operations at the RRUCLAMC. As previously analyzed and concluded in the 2009 LRDP Amendment Final EIR, the provisions of the existing Caltrans Aeronautics Heliport Permit ensure that potential safety hazards associated with operations of the helistop are less than significant, and no project-specific mitigation is required.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

There would be no impacts related to public use airports or to RRUCLAMC helistop operations.

Threshold 7.7	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The analysis of Impact 4.6-8 in Section 4.6, Hazards and Hazardous Materials, of the March 2009 LRDP Amendment Final EIR concluded that there would be a less than significant impact related to impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan. The campus has developed and implemented a number of emergency response plans, which are discussed in detail in Section 4.6.1 of the LRDP Amendment Final EIR (UCLA 2009). The campus' emergency response materials and methods of dissemination have evolved with changing technology. As discussed above, the written Campus Emergency Response Plan described in the March 2009 LRDP Amendment Final EIR has been superseded by online resources administrated by UCLA's OEM. These resources include a primary website (the OEM homepage), Bruins Safe Online website and mobile apps, and BruinAlert.

The proposed Project would provide up to 6,900 beds and associated support facilities at 5 sites on campus. UCLA estimates that approximately 72 percent (4,938 beds) of the 6,900 beds would be used by new students or students that would otherwise have to live off campus, and the remaining approximately 28 percent (1,962 beds) would be used by students that currently reside on campus in triple occupancy rooms (putting 3 students in rooms designed for 2 students). Therefore, proposed development of additional housing on campus would accommodate an approximate increase in resident population of 4,938 persons (not an increase in student enrollment). Additionally, there would be an estimated 145 new employees generated by the proposed Project. However, as discussed in Section 4.13, Transportation/Traffic, the increase in resident population and new employees would not result in an increase in daily traffic; rather, the total amount of daily traffic would decrease. Additionally, the number the AM peak hour trips would decrease, and there would be slight increase in PM peak hour trips (12 PM peak hour trips), which would not result in a significant traffic impact.

Construction and operation of the proposed housing projects would be designed to ensure that existing emergency response or evacuation plans are maintained and do not impede emergency access on campus, including existing fire lanes near the project sites. The campus evacuation area serving each project site (previously identified) would not be affected with implementation of the proposed housing projects.

Fire and emergency access would be maintained during construction and operation via one or more major roadways adjoining each site. This would include, but not be limited to, De Neve Drive and fire access roads adjacent to the Lot 15 site; Weyburn Place near the Warren Hall site; Gayley Avenue and Le Conte Avenue near the UNEX site; Gayley Avenue, Strathmore Place, and Charles E. Young Drive West near the Bradley site; and Charles E. Young Drive West and Charles E. Young Drive North near the Drake Stadium site. Multiple emergency access or evacuation routes are provided on campus to ensure that, in the event one roadway or travel lane is temporarily blocked, another may be utilized, as required by PP 4.13-5. Additionally, ongoing coordination among the University of California Police Department (UCPD), the LAFD, and UCLA pursuant to PP 4.13-8 would ensure that roadway or travel lane closures would be coordinated with emergency response personnel.

Therefore, the proposed Project would not impair implementation of or physically interfere with emergency response and evacuation plans with incorporation of PPs 4.13-5 and 4.13-8 (included under the Transportation and Traffic analysis of this Draft SEIR), consistent with the findings of the March 2009 LRDP Amendment Final EIR, and no project-specific mitigation is required.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have a less than significant impact related to implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan.

Threshold 7.8	Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Based on the Initial Study prepared for the March 2009 LRDP Amendment Draft EIR, implementation of development on campus was determined to have no impact related to wildfires because the UCLA campus is not located adjacent to a wildland area (UCLA 2009). Consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be no impact related to wildland fires from implementation of the proposed Project.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would result in a less than significant impact related to wildland fires.

4.7.3 CUMULATIVE IMPACTS

The geographical context for the analysis of cumulative impacts from hazardous materials use, transport, and disposal is the City of Los Angeles, unless otherwise specified in the discussion below for context. This analysis accounts for all anticipated cumulative growth in this geographic area, as represented by full implementation of the City of Los Angeles General Plan Framework and development of the related projects in Table 4-1, Cumulative Projects, in Section 4.0, Introduction to the Environmental Analysis, including projects on campus.

It is anticipated that future growth in the Los Angeles area will result in an incremental increase in the amount of hazardous materials used, treated, transported, and disposed area-wide. Although each development site has potentially unique hazardous materials considerations, it is expected that future growth, including the proposed housing projects, would comply with the range of federal, State, and local statutes and regulations applicable to hazardous materials, and would be subject to existing and future enforcement by the appropriate regulatory agencies. For these reasons, the proposed Project's contribution to cumulative impacts resulting from the use, transport, and disposal of hazardous materials or risk of upset from a release of hazardous materials would not be considerable and would be less than significant.

As discussed above under Thresholds 7.1 and 7.2, the proposed Project consists solely of residential and support uses, which would not handle hazardous or acutely hazardous materials, substances, or wastes except during demolition (i.e., ACMs, LBP, PCBs, universal wastes) and as expressly governed by federal and State regulations (PP 4.6-1), as well as established campus programs and practices, including the Asbestos Management Program and Lead Compliance Program. It is possible that a number of the cumulative projects and other future development in the City of Los Angeles would involve significant renovation demolition activity, which could subject construction workers to health or safety risks through exposure to hazardous materials, although the individual workers potentially affected would vary from project to project. It is anticipated that these future development projects would adhere to the applicable federal, State, and local requirements that regulate worker safety and exposure. As a result, the proposed Project would not result in a considerable contribution to cumulative impacts and the impact would be less than significant. As discussed under Threshold 7.1 and 7.2, UCLA would continue to adhere to these applicable regulations As discussed, various radioactive and biohazardous materials have been used at the Warren Hall site; however, use and storage of these materials has been conducted in compliance with applicable regulations, and the Cobalt-60 vault used in association with the Radiation Oncology department was decommissioned in 2016, and all other radioactive materials and irradiator sources were decommissioned in 2014 (Acha 2017). As such, the proposed Project would not result in significant public hazards as a result of (1) hazardous materials use, transport, or disposal or (2) accidental release of hazardous materials. Therefore, the contribution of the proposed housing projects to cumulative impacts related to hazardous materials handling and potential exposure of construction workers to hazardous materials would not be considerable. This is considered a less than significant impact. Future development in the City of Los Angeles may involve hazardous emissions or the handling of acutely hazardous materials, substances, or wastes within ¼ mile of an existing or proposed school. It is anticipated that future development would comply with applicable laws and regulations pertaining to hazardous wastes, and that risks associated with hazardous emissions or materials to existing or proposed schools located within ¼ mile of future development would be eliminated or reduced through proper handling, disposal practices, and/or clean-up procedures. Accordingly, cumulative impacts on schools associated with hazardous emissions or handling of hazardous materials are less than significant.

As discussed under Threshold 7.3, UCLA would comply with applicable hazardous materials and disclosure requirements and, in addition, will continue to implement the measures identified in PP 4.6-1. Therefore, the contribution of the proposed housing projects to cumulative impacts on schools related to hazardous emissions or handling of hazardous materials within ¼ mile of a school would not be considerable. This is considered a less than significant impact.

As discussed under Threshold 7.4, there are no listed contaminated soil or groundwater sites, as listed pursuant to Section 65962.5 of the *California Government Code* within the five project sites. Additionally, all previous LUSTs on campus have been remediated and properly closed. All remaining USTs on campus conform to applicable laws and regulations and are registered and permitted by the LAFD. If future UST-related cleanup were determined to be necessary, all work would be performed in accordance with the guidelines of the Los Angeles Regional Water Quality Board Underground Storage Tank Program. All non-UST hazardous waste storage locations are managed in accordance with all applicable federal and State laws, such as RCRA and the California Hazardous Waste Control Law, as well as all existing campus programs, practices, and procedures. Future development in the City of Los Angeles may be located on or near a site included on a list of hazardous materials sites compiled pursuant to Section 65962.5 of the *California Government Code*. It is anticipated that future development would comply with applicable laws and regulations pertaining to hazardous wastes, and that risks associated with identified hazardous materials sites would be eliminated or reduced through proper handling, disposal practices, and/or clean-up procedures. In many cases, development applications for

projects affected by hazardous materials on identified sites would be denied by the City of Los Angeles if adequate cleanup or treatment is not feasible.

Although there is no known soil or groundwater contamination on the campus, in the event that soil or groundwater contamination is discovered, UCLA would continue to adhere to these regulations, as well as established campus programs and practices (see PP 4.6-4). It is possible that a number of the cumulative projects and other future development in the City of Los Angeles could expose residents and construction workers to contaminated soil or groundwater. It is anticipated that future development projects would adhere to the applicable federal, State, and local laws and regulations that govern USTs and pesticide use, as well as requirements applicable to disposal and cleanup of contaminants. Therefore, the contribution of the proposed housing projects to cumulative impacts related to development on or near hazardous material sites would not be considerable. This is considered a less than significant impact.

As discussed under Threshold 7.5, there are no public airports in the campus vicinity and there is no impact related to safety hazards related to public airports. There would be no contribution to cumulative impacts related to public airports, and there would be no cumulative impact.

As discussed under Threshold 7.6, the RRUCLAMC operates a helistop for emergency transport. The proposed Project would not encroach on the approach/departure surface or increase the limited number of flights currently associated with this helistop. Future development in the City of Los Angeles, including the related projects, may be located in the vicinity of a private airstrip, although most future projects would not be so located. The risk to each future development project posed by a private airstrip is based upon location, and is therefore unique. It is also likely that such risk, if sufficiently high, would be a factor in any decision to approve or deny future development proposals. However because the proposed housing projects would have no impact related to potential safety hazards associated with operations of the RRUCLAMC helistop or any private airstrip, there would not be a contribution to cumulative impacts related to private airstrips, and there would be no cumulative impact.

As discussed under Threshold 7.7, construction and operation of the proposed housing projects would result in less than significant impacts with respect to emergency response or evacuation plans due to temporary construction barricades or other obstructions that could impede emergency access on campus with implementation of PP 4.13-5. Multiple emergency access or evacuation routes are provided on campus to ensure that, in the event one roadway or travel lane is temporarily blocked, another may be utilized. Furthermore, ongoing coordination between the UCPD, the LAFD, and UCLA pursuant to PP 4.13-8 ensures that roadway or travel lane closures will be coordinated with emergency response personnel to ensure that individual development projects would not affect emergency response and evacuation efforts. Construction and operation associated with future development in the City of Los Angeles could result in activities that could interfere with adopted emergency response or evacuation plans, primarily by temporary construction barricades or other obstructions that could impede emergency access. It is anticipated that future development projects would undergo California Environmental Quality Act (CEQA) review of potential impacts on adopted emergency response or evacuation plans and would be required to implement measures necessary to mitigate potential impacts. Therefore, the proposed Project's contribution to cumulative impacts related to emergency response and evacuation plans would not be cumulatively considerable. This is considered a less than significant impact.

Finally, as discussed under Threshold 7.8, there is no wildland fire risk on campus. There would be no contribution to cumulative impacts related to wildland fires, and there would be no cumulative impact.

4.7.4 REFERENCES

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4.8 HYDROLOGY AND WATER QUALITY

Hydrology and water quality are addressed in Section 4.7 of the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR). This section describes the existing hydrology at each of the five housing sites and evaluates the potential impacts to surface water drainage and water quality resulting from implementation of the proposed housing projects. Data and information used in this section were derived from the analysis of hydrology and water quality presented in Section 4.7, Hydrology and Water Quality, of the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR); and other sources as cited in this section and listed in Section 4.8.6, References.

Relevant elements of the proposed Project related to hydrology and water quality include changes in the coverage of impervious and pervious (i.e., landscaped) areas compared to the existing condition, detailed in the impact analysis below, and the capture of roof and surface drainage with discharge points consistent with the existing drainage pattern at each site.

One comment related to hydrology and water quality was received in response to the Notice of Preparation (NOP) circulated for the Project. The California Department of Transportation (Caltrans) commented that storm water runoff is a sensitive issue for Los Angeles and Ventura Counties and that the project needs to be designed to discharge clean runoff water. Additionally, Caltrans recommends that permeable pavement, landscaping, and trees be incorporated into the project area.

4.8.1 ENVIRONMENTAL SETTING

Section 4.7.1 of the March 2009 LRDP Amendment Final EIR discusses the environmental setting of the University of California, Los Angeles (UCLA) campus, including the project sites, related to rainfall, surface water drainage, storm water quality, flood hazards, and groundwater. Based on the issues to be addressed in this section of the Draft Subsequent EIR (SEIR), following is a discussion of the existing surface water drainage and storm water quality conditions on the UCLA campus and the project sites.

Surface Water Drainage

The major upstream drainage course from north of the campus is the Stone Canyon Watershed that conveys flows through a combination of below grade and surface storm drain channels to an underground box culvert that is located at the campus' Sunset Boulevard (i.e., northern) boundary. Drainage within the campus generally flows from the northeast and northwest sections of the campus to the south toward Le Conte Avenue. Runoff is collected by an extensive campus storm water drain system that the University maintains, which flows into the Los Angeles County storm drainage system (UCLA 2009).

As discussed in the March 2009 LRDP Amendment Final EIR, approximately 64 percent of the 419-acre UCLA campus consists of impervious surfaces (e.g., buildings, parking lots, roadways, and other paved areas) (UCLA 2009). Although there have been a number of redevelopment projects constructed on campus under the March 2009 LRDP Amendment, the coverage of impervious and pervious surfaces is similar to that present in 2008. In addition, new development on campus since 2009 has been required to comply with applicable regulations regarding storm water management and water quality at the time of each project (as further discussed below in Section 4.8.2, Regulatory Framework, below). As the majority of the runoff passing through the campus originates upstream of the campus in the Stone Canyon Watershed (a subwatershed of

the Ballona Creek Watershed), storm water runoff in campus storm drains is not substantially affected by slight increases in the impermeable surface area on the campus (UCLA 2009).

All campus storm water enters the Los Angeles City system via concrete structures at three locations: Gayley Avenue, Westwood Boulevard, and Hilgard Avenue. In the northwest and southwest portions of campus, including the five project sites as they are all located within the western half of campus, some flows are also received by the City system on Veteran Avenue. The campus storm drains adequately handle runoff for the majority of rainfall events; however, at times, some locations on campus (e.g., Westwood Plaza and Stone Canyon Creek) experience temporary, limited shallow ponding and surface flow during major storm events, though this is primarily due to localized topography and drainage (UCLA 2009). The City storm drain system, after carrying runoff from the campus and contributing upland areas, connects to the Los Angeles County system near Wilshire Boulevard. These flows are ultimately released into Ballona Creek in the vicinity of Culver Boulevard and then into the Pacific Ocean, at Santa Monica Bay (LADPW 2017).

Lot 15 Site

The approximate 3.1-acre Lot 15 site generally consists of surface parking (Lot 15); a portable office structure; storage containers; and a greenhouse and facilities for storage of parts, material, and plants. Under existing conditions, the site is composed of approximately 1.9 acres of impervious surfaces (approximately 62 percent). Surface water runoff sheet-flows along the existing ground surface towards the adjacent City streets and associated storm drainage infrastructure. Existing storm drainage infrastructure includes a 24-inch storm drain main in De Neve Drive. There is catch basin located in the southwestern portion of the site, immediately north of the access road/fire lane running along the south end of the site, which connects to the beginning of a 12-inch-diameter storm drain line that runs west and connects to an 81-inch-diameter City of Los Angeles pipeline located in Veteran Avenue.

Warren Hall Site

The approximate 3.9-acre Warren Hall site is currently developed with Warren Hall and the Hillblom Islet Research Center as well as their associated surface parking areas. With the exception of some landscaped areas at the site, the majority of the site has an impervious surface (building, parking or pathways). The existing site is composed of approximately 2.7 acres of impervious surfaces (approximately 71 percent). Surface water runoff sheet-flows along the existing ground surface toward the adjacent City streets and associated drainage infrastructure. Existing storm drainage infrastructure near the site includes an 18-inch storm drain line that starts at the west end of the private drive lane north of the site. This line continues west to the turnaround, south at Weyburn Terrace, and west at South Lane where it ultimately connects to the City of Los Angeles storm drain main in Veteran Avenue. There is a separate 12-inch-diameter storm drain line in Weyburn Terrace that begins just south of the Weyburn Terrace and South Lane intersection, continues south and turns west on Weyburn Avenue, and eventually connects to an 81-inch-diameter City of Los Angeles pipeline located in Veteran Avenue.

University Extension Site

The approximate 1.0-acre University Extension building (UNEX) site is currently developed with the UNEX building, surface parking, and a service driveway. The existing site is composed of approximately 28,420 square feet (sf) of impervious surfaces (approximately 68.7 percent). Surface water runoff sheet-flows along the existing ground surface generally to the south, diverting around the UNEX building, towards the adjacent City streets and associated drainage infrastructure. City of Los Angeles storm drains are located in the roadways west, south, and east

of the site. There is a 24-inch diameter storm drain line that begins at the curb on the east side of Levering Avenue along the southwestern site boundary, which runs south to Le Conte Avenue and continues east to Gayley Avenue, where it connects to a 63-inch-diameter City of Los Angeles storm drain line.

Bradley Site

The approximate 1.1-acre Bradley site consists primarily of the undeveloped grassy knoll north of the intersection of Gayley Avenue and Strathmore Drive as well as a portion of paved patio on the south side of Bradley International Hall. The existing site is composed of approximately 2,080 sf of impervious surfaces (approximately 4 percent). Surface water runoff sheet-flows along the existing ground surface towards the adjacent City streets and associated storm drainage infrastructure. Existing storm drainage infrastructure in and near the site includes a 42-inch-diameter storm drain line that extends from near the northeast corner of the site south through the site, curving to the southeast near the sidewalk in Strathmore Place and continuing to the southeast; and a storm drain grate at the curb near the Strathmore Place and Charles E. Young Drive West intersection that connects to a 12-inch-diameter storm drain pipeline that extends to the southeast.

Drake Stadium Site

The approximate 1.3-acre Drake Stadium site consists of a portion of the paved concourse at the top of the Drake Stadium bleachers and the steep, vegetated slope along the western portion of the concourse. The existing site is composed of approximately 30,380 sf of impervious surfaces (approximately 53 percent). Surface water runoff sheet-flows along existing impervious surfaces to the adjacent landscape pervious areas. Existing storm drainage infrastructure in and near the Drake Stadium site includes 4-inch-diameter and 6-inch-diameter storm drain lines along the length of the concourse as well as 4-inch-diameter and 6-inch-diameter lines running laterally across the concourse to connect to a 4-inch-diameter line along the length of the vegetated slope. There is also a 33-inch-diameter storm drain pipeline located in Charles E. Young Drive West.

Existing Water Quality

As discussed in the March 2009 LRDP Amendment Final EIR, constituents found in typical urban runoff vary as a result of differences in rainfall intensity and occurrence, geographic features, the land use of a site, vehicle traffic, and percentage of impervious surface. The U.S. Environmental Protection Agency (USEPA) estimates that, without adequate erosion- and runoff-control measures, short-term runoff from construction sites can add more sediment to receiving waters than that deposited by natural processes over a period of several decades.

Campus storm water quality is typical of most urban areas in that it includes a variety of common contaminants. These pollutants consist primarily of suspended sediments, limited fertilizers and pesticides used in grounds maintenance, and contaminants that are commonly associated with automobiles (e.g., oil, grease, and hydrocarbons) (UCLA 2009). Storm water runoff from the five project sites is also typical of urban areas.

Each of the receiving waterbodies downstream of the campus are listed on the Clean Water Act (CWA) Section 303(d) list of impaired water bodies and/or those that have an associated total maximum daily load (TMDL), which is further discussed in the Regulatory Framework section below. Table 4.8-1 provides an overview of the listed impairments and applicable TMDLs for each waterbody.

TABLE 4.8-1
RECEIVING WATERS, 303(D) LISTED IMPAIRMENTS, AND APPLICABLE TOTAL MAXIMUM DAILY LOADS

Water Body	303(d) Listed Impairments	Applicable TMDLs
Sepulveda Canyon	ammonia, copper, indicator bacteria, lead, selenium, zinc	copper, indicator bacteria, lead, selenium, zinc
Ballona Creek	cadmium, coliform bacteria, dissolved copper, cyanide, lead, selenium, toxicity, trash, enteric viruses, zinc	coliform bacteria, dissolved copper, lead, selenium, toxicity, trash, enteric viruses, zinc
Ballona Creek Estuary	cadmium, chlordane, coliform bacteria, copper, DDT, lead, PAHs, PCBs, sediment toxicity, shellfish harvesting advisory, silver, zinc	cadmium, chlordane, coliform bacteria, copper, DDT, lead, PAHs, PCBs, sediment toxicity, silver, zinc
Santa Monica Bay Offshore/Nearshore	debris, DDT, fish consumption advisory, PCBs, sediment toxicity	None

TMDL: total maximum daily load; DDT: dichlorodiphenyltrichloroethane; PCB: polychlorinated biphenyls; PAH: polycyclic aromatic hydrocarbons.

Source: SWRCB 2015.

Flood Hazards

Consistent with the flood hazard mapping included in the March 2009 LRDP Amendment Final EIR, and according to Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map GIS Database, the majority of the campus, including all five project sites, is within Zone X (an area that is determined to be outside the 100- and 500-year floodplains), although a linear area along Sunset Boulevard following Stone Canyon Creek at the edge of campus is within Zone AO. Zone AO represents river or stream flood hazard areas, and areas with a one percent or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from one to three feet. None of the project sites are within the area designated Zone AO.

The Stone Canyon Reservoir, located approximately two miles north of the campus, is operated by the City of Los Angeles Department of Water and Power (LADWP). A seismic stability of the Stone Canyon Dam approved by the State Department of Water Resources, Division of Safety of Dams in 2003, concludes that a seismic-related or sudden accidental breach of the dam structure is considered remote and speculative (UCLA 2009).

Groundwater

The campus overlies the Santa Monica Groundwater Basin, which is located within the Santa Monica Plain (an alluvial apron formed at the southern edge of the Santa Monica Mountains) (DWR 2004). Generally, the Santa Monica Plain is underlain by water-bearing sediments of considerable thickness, and depth to groundwater measured for UCLA construction projects has varied, with flow in a generally southerly direction. As further described in Section 4.5, Geology and Soils, of this Draft SEIR, groundwater seepage was encountered during borings conducted at the Bradley site at 30 feet below ground surface (bgs) and 37 feet bgs. No groundwater was encountered in borings conducted at the Lot 15, Warren Hall, and UNEX sites. As demonstrated by the results of the geotechnical investigations summarized above, groundwater levels across the campus vary but are generally at depths of at least 30 feet bgs. The primary source of groundwater recharge into the Santa Monica Basin is percolation of precipitation and surface runoff from the Santa Monica Mountains (MWD 2007).

Constituents of concern for the Santa Monica Basin include total dissolved solids (TDS), nitrate, volatile organic compounds (VOCs), and methyl tertiary butyl ether (MTBE). The degradation of water quality from either salt-water intrusion or the introduction of the above-listed contaminants limits the ability to use the groundwater resources available in the Santa Monica Basin (MWD 2007). Although VOCs or other contaminants could be present in groundwater in the vicinity of the campus, no existing groundwater contamination within the campus area is known, and no existing cleanup work is necessary or now occurs. The only recorded instance of discovered contaminated soils on campus was from a leaking underground storage tank (UST) at the UCLA fleet service garage (T0603700680); however, corrective action was performed and the case (No. 900240043) was closed by the Los Angeles Regional Water Quality Control Board in May 1997 (SWRCB 2017b).

4.8.2 REGULATORY FRAMEWORK

Section 4.7 of the March 2009 LRDP Amendment Final EIR provides a complete discussion of the regulatory framework for the analysis of hydrology and water quality. Since certification of the March 2009 LRDP Amendment Final EIR, the State Water Resources Control Board (SWRCB) has issued the new statewide "Construction General Permit" pursuant to the National Pollutant Discharge Elimination System (NPDES) permit program. The SWRCB also adopted a General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (MS4s). The current regulatory setting for management of surface water is described below.

Federal

Clean Water Act

The Clean Water Act (CWA) was designed to restore and maintain the chemical, physical, and biological integrity of U.S. waters. The CWA also directs states to establish water quality standards for all waters of the United States and to review and update such standards on a triennial basis. In 1972, the CWA was amended to prohibit discharges of pollutants to waters of the United States from any point source, unless the discharge is in compliance with an NPDES permit. In 1987, the CWA was again amended to require that the USEPA establish regulations for permitting of storm water discharges (as a point source) by municipal facilities, industrial facilities, and construction activities under the NPDES permit program. The regulations require that MS4 discharges to surface waters must be regulated by an NPDES permit. The USEPA has delegated responsibility for implementation of portions of the CWA to the SWRCB and the Regional Water Quality Control Boards (RWQCBs), including water quality control planning and control programs such as the NPDES Program. As such, this is discussed below under "State".

Projects resulting in discharges, whether to land or water, are subject to Section 13263 of the *California Water Code* and are required to obtain approval of Waste Discharge Requirements (WDRs) by the RWQCBs. Land- and groundwater-related WDRs (i.e., non-NPDES WDRs) regulate discharges of process and wash-down wastewater and privately or publicly treated domestic wastewater. WDRs for discharges to surface waters also serve as NPDES permits, which are further described below. The campus is not considered a point source for regulatory purposes and, therefore, is not subject to non-NPDES WDRs.

State

The SWRCB and the nine RWQCBs are responsible for the protection of water quality in California; the campus is within the Los Angeles RWQCB (LARWQCB). The SWRCB establishes statewide policies and regulations for implementing water quality control programs mandated by federal and State water quality statutes and regulations. The RWQCBs develop and implement

Water Quality Control Plans (Basin Plans) that consider regional beneficial uses, water quality characteristics, and water quality problems. The Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan) is discussed below and implements a number of federal and State laws for the proposed project area, the most important of which are the State Porter-Cologne Water Quality Control Act and the Federal CWA.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (*California Water Code*) was enacted by the State of California in 1969, became effective on January 1, 1970, and was last updated in April 2017. The legislation has served as a model for subsequent water quality legislation by the federal government and other State governments. The *California Water Code* authorizes the SWRCB to adopt, review, and revise policies for all waters of the State (including both surface waters and groundwaters) and directs the nine RWQCBs to develop regional Basin Plans. Section 13170 of the *California Water Code* also authorizes the SWRCB to adopt water quality control plans on its own initiative. In the event of inconsistencies among various SWRCB and Regional Board plans, the more stringent provisions apply (SWRCB 2017a).

Basin Plan for Coastal Watersheds of Los Angeles and Ventura Counties

The LARWQCB Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties covers the UCLA campus and is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan (1) designates beneficial uses for surface and ground waters; (2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and to conform to the State's anti-degradation policy; and (3) describes implementation programs to protect all waters in the region. It incorporates by reference all applicable State and Regional Board plans and policies along with other pertinent water quality policies and regulations. The Basin Plan is a resource for the RWQCB and others who use water and/or discharge wastewater in the Los Angeles Region, as well as for other agencies and organizations involved in environmental permitting and resource management activities. Finally, it provides valuable information to the public about local water quality issues. The Basin Plan is reviewed and updated as necessary. Following adoption by the RWQCB, the Basin Plan and subsequent amendments are subject to approval by the SWRCB, the State Office of Administrative Law (OAL), and the USEPA. Subsequent to the June 13, 1994, adoption of the Basin Plan, multiple amendments have been adopted.

National Pollutant Discharge Elimination System Permits

As discussed above, the NPDES permit program stems from the federal Clean Water Act. In the State of California, this program is administered by the RWQCBs. The RWQCBs have the mandate to develop and enforce water quality objectives and implementation plans within their regions. If discharges from industrial, municipal, and other facilities go directly to surface waters, permits just be obtained from the applicable RWQCB. An individual NPDES permit is specifically tailored to a facility. A general NPDES permit covers multiple facilities within a specific activity category such as construction activities. NPDES permits particularly relevant to the proposed housing projects are discussed below.

Construction General Permit

Pursuant to CWA Section 402(p), which requires regulations for permitting of certain storm water discharges, the SWRCB issued a statewide general NPDES Permit for storm water discharges

from construction sites,[1] herein referred to as the "Construction General Permit". Under this Construction General Permit, discharges of storm water from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for storm water discharges or to be covered by the Construction General Permit.

Coverage under the Construction General Permit is accomplished by filing the Permit Registration Documents, which include a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other compliance-related documents required by the General Permit. All of these documents must be electronically submitted to the SWRCB for General Permit coverage. The primary objectives of an SWPPP are (1) to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in storm water discharges and authorized non-storm water discharges from the construction site. The SWPPP also outlines the monitoring and sampling program required for the construction site to verify compliance with discharge Numeric Action Levels (NALs) set by the Construction General Permit. Section A-8 of the City of Irvine Local Implementation Plan (LIP) describes the City's requirements for compliance with the Construction General Permit.

Phase II

Phase I of the NPDES Program requires NPDES permits for storm water discharge from a large number of priority sources, including MS4 permits serving populations of over 100,000 (i.e., large MS4s), several categories of industrial activities, and construction activity that disturbs one acre or more. Because the UCLA campus is not a large MS4, the Phase I NPDES requirements would not apply to the proposed Project.

Phase II of the NPDES Program regulates storm water discharges from small MS4s (such as schools and universities). As part of Phase II, the SWRCB adopted a General Permit for the Discharge of Storm Water from Small MS4s (WQ Order No. 2003-0005-DWQ) to provide permit coverage for smaller municipalities, including non-traditional small MS4s, which include public campuses. The Phase II Small MS4 General Permit covers Phase II permittees statewide. On February 5, 2013, the Phase II Small MS4 General Permit was adopted and became effective on July 1, 2013 (WQ Order No. 2013-0001-DWQ). UCLA was approved for coverage under the Phase II MS4 permit program on July 12, 2013, and was assigned a Water Discharge Identification (ID) number (WDID 4 19M2000037). UCLA is required to comply with the requirements of the MS4 permit and the campus' Stormwater Management Program.

General Waste Discharge Requirements for Construction Non-Storm Water Discharges

If discharges of treated or untreated groundwater generated from permanent or temporary dewatering operations or other applicable wastewater discharge not specifically covered in other general or individual NPDES permits are required, a proposed project must comply with the requirements of General Waste Discharge Requirements (General WDRs) for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in the Coastal Watersheds of Los Angeles and Ventura Counties (Order No. R4-2013-0095, which became effective on July 6, 2013). The General WDRs include provisions mandating notification, testing, and reporting of dewatering and testing-related discharges, and contain numeric and

[1] NPDES No. CAS000002, Water Quality Order 2009-0009-DWQ, SWRCB NPDES General Permit for Storm Water Discharges Associated with Construction Activity (adopted by the SWRCB on September 2, 2009, and effective on July 1, 2010). This order was amended by 2010-0014-DWQ, which became effective on February 14, 2011, and 2012-0006-DWQ, which became effective on July 17, 2012. In accordance with the language set forth in Order No. 2009-0009-DWQ, this permit has been administratively extended indefinitely.

performance-based effluent limits depending upon the type of discharge. The General WDRs authorize such construction-related activities so long as all conditions of the permit are fulfilled.

4.8.3 PROJECT IMPACTS AND MITIGATION

Methods

The analysis of surface water drainage and storm water quality focuses on any changes in the amount of impervious and pervious surfaces at each site and the existing and proposed storm drainage infrastructure that may affect the quantity or quality of runoff being discharged from the project site.

Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, a project will normally have a significant adverse environmental impact on hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements.
- Otherwise substantially degrade water quality.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site.
- Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows?
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Cause inundation by seiche, tsunami, or mudflow.

Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 LRDP Amendment Final EIR

The following Programs, Practices, and Procedures (PPs) and Mitigation Measure (MM) were adopted as part of the March 2009 LRDP Amendment Final EIR, and are incorporated as part of the proposed Project and assumed in the analysis presented in this section. Note that changes to LRDP Final EIR PPs 4.7-1 and 4.7-5 are shown in **bold-faced** and ~~strike-out~~ type; these changes have been made to clarify reference to applicable Best Management Practices for hydrology and water quality.

PP 4.7-1 *Construction and operation of projects on campus shall comply with requirements and water quality standards set forth within current NPDES Permit regulations (Phase I and Phase II) at the time of project approval. Pursuant to Phase I permit requirements, UCLA shall develop a Storm Water Pollution Prevention Plan (SWPPP) that incorporates Best Management Practices (BMPs) for reducing or eliminating construction-related and post-construction pollutants in site runoff**, including but not limited to the BMPs listed in MM 4.7-1**.*

PP 4.7-5 *Site-specific hydrologic evaluation shall be conducted for each proposed development project based on the project-specific grading plan and site design of each individual project. This evaluation shall include, but not be limited to: (1) an assessment of runoff quality, volume and flow rate from the proposed project site; (2) identification of project specific BMPs (structural and non-structural) to reduce the runoff rate and volume to appropriate levels**, including but not limited to the BMPs listed in MM 4.7-1**; and (3) identification of the need for new or upgraded storm drain infrastructure (on and off campus) to serve the project. Project design shall include measures to upgrade and expand campus storm drain capacity where necessary, as identified through the project-specific hydrologic evaluation. Design of future projects shall include measures to reduce runoff, including, but not limited to, the provision of permeable landscaped areas adjacent to structures to absorb runoff and the use of pervious or semi-pervious paving materials.*

MM 4.7-1 *Best Management Practices (BMPs) shall be implemented for individual development projects, to the extent required by State law, to ensure compliance is maintained with all applicable NPDES requirements at the time of project construction. UCLA shall utilize BMPs as appropriate and feasible to comply with and/or exceed the current requirements under the NPDES program. BMPs that may be implemented include, but are not limited to, the following:*

Non-Structural/Structural

- *Landscape Maintenance*
- *Catch Basin Stenciling and Clean-out*
- *Efficient Irrigation Practices*
- *Litter Control*
- *Fertilizer Management*
- *Public Education*
- *Efficient Irrigation*
- *Permanent Vegetative Controls*

- *Runoff – Minimizing Landscape Design*

Treatment Control BMPs (to minimize storm water pollutants of concern for Ballona Creek – Sediment, Bacteria/Viruses, Toxicity, Trash, and Metals):

- *Vegetated Swale(s) – An open, shallow channel with vegetation covering side slopes and the bottom.*
- *Bioretention – A basin that functions as a soil and plant-based filtration device that removes pollutants through a variety of physical, biological, and chemical treatment processes.*
- *Turf Block – A grass area that has a structural component which allows it to be used in drive aisles and parking lots.*
- *Drain Inserts – A manufactured filter placed in a drop inlet to remove sediment and debris.*

Impact Analysis

Threshold 8.1	Would the project violate any water quality standards or waste discharge requirements?
Threshold 8.2	Would the project otherwise substantially degrade water quality?

The analysis of Impact 4.7-1 in Section 4.7, Hydrology and Water Quality, of the March 2009 LRDP Amendment Final EIR determined that, with implementation of PP 4.7-1 and MM 4.7-1, there would be a less than significant impact related to violation of existing water quality standards or waste discharge requirements and degradation of water quality.

Construction-Related Impacts

Consistent with the analysis presented in the March 2009 LRDP Amendment Final EIR, implementation of the proposed housing projects would result in runoff exiting the project sites during construction. The potential impacts of construction activities, construction materials, and non-storm water runoff on water quality during the construction phase would primarily be due to sediment (total suspended solids [TSS] and turbidity) and certain non-sediment-related pollutants. Construction-related activities that are primarily responsible for sediment releases are related to exposing previously stabilized soils to potential mobilization by rainfall/runoff and wind. Such activities include removing of vegetation from the site; grading the site; and trenching for infrastructure improvements. Environmental factors that affect erosion include topographic, soil, and rainfall characteristics. Other common pollutants that may result from construction activities include petroleum-related pollutants due to spills or leaks from heavy equipment and machinery; solid or liquid chemical spills; concrete and related cutting or curing residues; wastes from paints, stains, sealants, solvents, detergents, glues, acids, lime, plaster, and cleaning agents; and heavy metals from equipment.

The CWA establishes a framework for regulating potential water quality impacts from construction activities through the NPDES Program; the regulatory framework for water quality is described in Section 4.7.2 of the March 2009 LRDP Amendment Final EIR, and Section 4.8.2, Regulatory Framework, above reflects changes in NPDES requirements subsequent to certification of the LRDP Final EIR.

The proposed Project would involve disturbance of more than 1.0 acre, including the construction impact area. Therefore, in compliance with PP 4.7-1, construction at each of the sites would comply with requirements and water quality standards set forth in the current NPDES Permit regulations. As previously noted, the SWRCB General Permit for Stormwater Discharges Associated with Construction Activity was adopted on September 2, 2009 (Water Quality Order 2009-0009), and was subsequently amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ (effective July 17, 2012). Specifically, the contractor is required to prepare an SWPPP, which incorporates Best Management Practices (BMPs) for reducing or eliminating construction-related pollutants in runoff from the site. The SWPPP would include both source-control and treatment-control BMPs to reduce water quality impacts. Erosion-control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap or filter sediment once it has been mobilized. In addition to erosion- and sediment-control BMPs, the following types of BMPs would be implemented, as needed, during construction: waste and materials management; non-storm water management; training and education; and inspections, maintenance, monitoring, and sampling. The BMPs would be implemented in compliance with the Construction General Permit and the general waste discharge requirements in the General WDRs. The BMPs that are most often used during construction and that would be implemented for the proposed housing projects include watering exposed soils; installing sandbags to minimize off-site runoff; and timing grading to avoid the rainy season (i.e., November through April).

As discussed in Section 4.7, Geology and Soils, of this Draft SEIR, the preliminary geotechnical investigation prepared for the Bradley site concluded there is potential for groundwater seepage to be encountered during excavation (Geocon 2016c). In the event groundwater seepage is encountered, the water may require collection and disposal. This would qualify as a wastewater discharge not covered under the Construction General Permit; therefore, construction at the Bradley site (or any other site if groundwater is encountered) would be required to comply with the notification, testing, and reporting requirements of the General WDRs for dewatering discharges, discussed above in Section 4.8.2, Regulatory Framework, to ensure the effluent from groundwater seepage does not degrade water quality.

Compliance with applicable requirements would reduce short-term construction-related water quality impacts to a less than significant level. Consistent with the finding for construction-related water quality impacts presented in the March 2009 LRDP Amendment Final EIR, there would be less than significant water quality impacts with the implementation of PP 4.7-1 and compliance with all applicable requirements of the General WDRs for dewatering, and no project-specific mitigation would be required.

Operation

As discussed in the March 2009 LRDP Amendment Final EIR, the UCLA campus is not considered a point source for regulatory purposes and is not subject to WDRs. While the campus has an industrial wastewater permit for wastewater discharge associated with the food service, laboratory, and medical land uses on campus, no hazardous waste is discharged into the sewer or storm drain systems on campus. Under the 2002 LRDP, as amended in March 2009, the campus may develop additional academic, residential, and support uses that are substantially similar to existing campus uses and that would not contribute different types of pollutants than those now generated. The constituent pollutants entering the City and campus storm drain systems would not change in character as a result of implementation of the proposed housing project and would primarily be composed of fuels, oils, lubricants and hydraulic fluids, and radiator or battery fluids from automobile use; pesticides, herbicides, and fertilizers; and floatable wastes and trash (UCLA 2009). With the exception of proposed dining services at the Bradley site, operation of the proposed housing and associated support facilities would not involve any uses that would be subject to the provisions of the campus' industrial wastewater permit. Operation of

the dining services at the Bradley site would comply with applicable requirements of the campus' industrial wastewater permit.

The proposed housing development at each of the project sites is expected to be a source of various pollutants entering the storm water. Pollutants of concern include those expected pollutants that coincide with pollutants on the 303(d) list for receiving waters (see Table 4.8-1) and primarily include pesticides, bacteria, and heavy metals.

- **Pesticides.** Pesticides are anticipated from the landscaped areas as well as from past use of legacy pesticides (e.g., dichlorodiphenyltrichloroethane [DDT]).
- **Bacteria, Viruses, and Pathogens.** Bacteria, viruses, and pathogens are anticipated from trash container handling areas.
- **Petroleum Products.** Petroleum products such as oil, grease, and gasoline are anticipated from motor vehicles in the parking areas and drive aisles.
- **Heavy Metals.** Heavy metals, including copper, lead, cadmium, chromium, nickel, and zinc, are anticipated from motor vehicles and expected to occur in the parking areas and drive aisles.
- **Toxic Organic Compounds.** Toxic organic compounds are anticipated from automotive fluids, pesticides, and fertilizers.
- **Trash and Debris.** Trash and debris are anticipated from outdoor areas and trash container handling areas.

These pollutants would add to existing impairments for Sepulveda Canyon, Ballona Creek, Ballona Creek Estuary, and Santa Monica Bay (Offshore/Nearshore). The level of pollutants are expected to increase under proposed conditions when compared to existing conditions due to the increase in developed area overall from the five housing projects, and associated increase in pollutants occurring in the storm water runoff from the campus. In accordance with March 2009 LRDP Amendment Final EIR's PP 4.7-1, operation of the proposed housing projects would comply with the requirements and water quality standards set forth in the NPDES Permit regulations current at the time of project approval. Site-specific BMPs to address post-construction pollutants in site runoff would be developed (as required by Final EIR MM 4.7-1); the required sizing of structural BMPs would be determined as part of the site-specific hydrology evaluation to be conducted during the design process (refer to Final EIR PP 4.7-5) and would be based on the regulatory requirements of the applicable NPDES permit. Notably, the campus' MS4 permit requires incorporation of Low Impact Development (LID) standards for post-construction design, discussed further below for each site, to manage both quantity and quality of storm water runoff. The LID standards require that BMPs are implemented such that (1) post-development runoff rates and volumes are not greater than the existing condition and (2) the volume of water from every storm event up to and including an 85th percentile, 24-hour rainfall event is treated prior to discharging into the municipal (City and campus) storm drainage system. Based on current requirements and available site-specific information regarding the change in pervious/impervious area, the expected water quality management system for each site is discussed below.

Lot 15 Site

Implementation of the proposed housing development at the Lot 15 site would reduce the pervious surface area by approximately 12,000 sf (approximately 9 percent of the 3.1-acre site) compared to the existing condition. To comply with current regulations, storm water runoff from roof drains and ground level areas would be collected and directed into one of two capture and reuse

rainwater cisterns (cisterns). A pre-treatment hydrodynamic separator manhole would be installed upstream of each cistern. The cisterns would connect via mechanical pump skid units to the planned drip irrigation system. Preliminary cistern sizing indicates an approximate 11,000-gallon tank to serve the northern building, and an approximate 15,500-gallon tank to serve the southern building. Overflow from the cisterns along with surface drainage would be conveyed with a new on-site 12-inch-diameter storm drain line and connect to the existing catch basin located immediately south of the site. The final specifications of the storm water management plan, including the sizing of the cisterns, would be determined as part of the final design process. With incorporation of PP 4.7-1, PP 4.7-5 and MM 4.7-1 from the 2009 LRDP Amendment Final EIR, there would be less than significant impacts related to storm water runoff quality or quantity at the Lot 15 site.

Warren Hall Site

Implementation of the proposed housing development at the Warren Hall site would not notably change the amount of pervious or impervious surface at the site, compared to the existing condition. Percolation testing was performed on the Warren Hall site as part of the Preliminary Geotechnical Investigation and determined that storm water infiltration was not recommended (Geocon West 2016a). To comply with current regulations, storm water runoff from roof drains and ground level areas would be collected and directed into one of two cisterns. A pre-treatment hydrodynamic separator manhole would be installed upstream of each cistern. The cisterns would connect via mechanical pump skid units to the planned drip irrigation system. Preliminary cistern sizing indicates an approximate 28,300-gallon tank to serve the two northern buildings, and an approximate 18,500-gallon tank to serve the southern building. Overflow from the cisterns along with surface drainage would be conveyed west towards Weyburn Terrace into the existing 12-inch-diameter storm drain line. The final specifications of the storm water management plan, including the sizing of the cisterns, would be determined as part of the final design process. With incorporation of PP 4.7-1, PP 4.7-5, and MM 4.7-1 from the 2009 LRDP Amendment Final EIR, there would be less than significant impacts related to storm water runoff quality or quantity at the Warren Hall site.

UNEX Site

Implementation of the proposed housing development at the UNEX site would increase the pervious surface area by approximately 2,150 sf (approximately 5 percent of the approximate 1.0-acre site) compared to the existing condition. Percolation testing was performed on the UNEX site as part of the preliminary geotechnical study, and determined that storm water infiltration was not recommended (Geocon West 2016b). As the amount of pervious area would be increased at this site, implementation of the proposed housing project would not increase the rate or volume of runoff. As such, runoff from the roof areas would be captured and treated. Storm water runoff from roof drains would be collected via catch basins and treated by an estimated 2,744 sf of flow-through planters before discharging through existing curb drains to the existing storm drainage system. To meet LID filtration requirements, three inches of mulch would be installed and maintained at the top of the planter boxes. Alternatively, the project could install an active system to capture and reuse storm water for irrigation on-site. Details of this option are under review and would be sized and located based on the proposed project and consistent with LID requirements. The final specifications of the storm water management plan, including the sizing of the planter boxes, would be determined during the final design process. With incorporation of PP 4.7-1, PP 4.7-5 and MM 4.7-1 from the 2009 LRDP Amendment Final EIR, there would be less than significant impacts related to storm water runoff quality or quantity at the UNEX site.

Bradley Site

Implementation of the proposed housing development at the currently undeveloped he Bradley site would increase the impervious surface area by approximately 29,860 sf (approximately 61 percent of the approximate 1.1-acre project site). In accordance with PP 4.7-5, a hydrologic evaluation would be conducted for proposed development at the site. MM 4.7-1 is incorporated into the proposed housing project at the Bradley site and requires implementation of BMPs to ensure compliance with all applicable NPDES requirements at the time of proposed Project construction. It should be noted that percolation testing was performed on the Bradley site as part of the preliminary geotechnical study and determined that storm water infiltration is not recommended (Geocon West 2016c). The site-specific hydrologic evaluation would determine the appropriate BMPs to ensure compliance with the campus' MS4 permit for post-development storm water runoff at each site; however, consistent with the Lot 15, Warren Hall and UNEX sites, it is expected that cisterns and/or flow-through planters would be used to meet applicable requirements.

Drake Stadium Site

Implementation of the proposed housing development at the Drake Stadium site would increase the impervious surface area from approximately 53 percent to essentially 100 percent of the approximately 1.3-acre site (an increase of approximately 26,615 sf of impervious area). There would be limited landscape areas that would be considered pervious. In accordance with PP 4.7-5, a hydrologic evaluation would be conducted for proposed development at the site. MM 4.7-1 is incorporated into the proposed housing project at the Drake Stadium site and requires implementation of BMPs to ensure compliance with all applicable NPDES requirements at the time of proposed Project construction. The site-specific hydrologic evaluation would determine the appropriate BMPs to ensure compliance with the campus' MS4 permit for post-development storm water runoff at each site; however, consistent with the Lot 15, Warren Hall and UNEX sites, it is expected that cisterns and/or flow-through planters would be used to meet applicable requirements. To summarize, based on site-specific hydrologic evaluations (required by PP 4.7-5), site-specific BMPs would be developed and implemented to ensure the proposed housing projects comply with applicable requirements, as per PP 4.7-1 and MM 4.7-1, and to ensure that discharges of post-construction pollutants remain less than significant, consistent with the findings of the March 2009 LRDP Amendment Final EIR.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have less than significant impacts related to (1) violating water quality standards or waste discharge requirements, and (2) otherwise degrading water quality.

Threshold 8.3	Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

The analysis of Impact 4.7-2 in the March 2009 LRDP Amendment Final EIR concluded that development on campus would result in a less than significant impact related to substantial depletion of groundwater supplies or interference with groundwater recharge.

Currently, the UCLA campus utilizes water from the LADWP, which relies on local groundwater supplies as a component of their potable water sources. However, the LADWP does not pump from the Santa Monica Groundwater Basin, which underlies the campus (LADWP 2016). As discussed further in Section 4.14, Utilities and Service Systems, of this Draft SEIR, using data provided by the project engineers and water consumption factors from the March 2009 LRDP Amendment Final EIR, operation of the proposed Project is estimated to generate a net demand for 0.41 million gallons per day (mgd) of potable water. However, as further discussed in the Water Supply Assessment (WSA) prepared for the proposed Project included in Appendix I, and summarized in Section 4.14, Utilities and Service Systems, of this Draft SEIR, not all the additional water required for buildout of the campus would be met by increased groundwater drawdown; approximately 12 percent of LADWP's water supply comes from local groundwater. . Additionally, in 2040, the water demand from the proposed Project would be 0.08 percent of LADWP's total water service area demand. The information included in the WSA identifies a sufficient and reliable water supply for LADWP, now and into the future, including a sufficient water supply for the proposed Project and for overall City-wide growth at the rate projected in LADWP's 2015 UWMP. Therefore, the proposed Project, would not substantially deplete groundwater supplies, which is consistent with the findings of the March 2009 LRDP Amendment Final EIR.

As identified in the March 2009 LRDP Amendment Final EIR, the UCLA campus is not a designated groundwater recharge area for the 4,800-acre Santa Monica Groundwater Basin (UCLA 2009). As previously discussed, compared to the existing condition, implementation of the proposed Project would result in a net decrease in pervious surface area (estimated to be a decrease of approximately 1.5 acres total between the 5 sites). However, this modest decrease in pervious surfaces as a result of the proposed housing projects would not result in a notable change in the associated recharge capability of the campus as a whole. Therefore, there would be a less than significant impact related to groundwater recharge, consistent with the findings of the March 2009 LRDP Amendment Final EIR and no additional mitigation is required.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have a less than significant impact related to substantial depletion of groundwater supplies or interference with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table.

Threshold 8.4	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site?
Threshold 8.5	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?

The analysis of Impacts 4.7-3 and 4.7-4 in the March 2009 LRDP Amendment Final EIR regarding existing drainage patterns concluded that there would be less than significant impacts with implementation of PP 4.7-5.

There are no major streams or rivers that traverse the project sites, and implementation of the proposed housing projects would not result in a significant impact to large regional drainage features. Stone Canyon Creek is the only regional drainage feature that traverses the campus, and it is not located within or near the five project sites; therefore, it would not be altered with implementation of the proposed housing projects. Construction activities and grading alterations associated with implementation of the proposed housing projects could alter site drainage patterns and associated erosion or siltation patterns during and after construction. As discussed under Thresholds 8.1 and 8.2, implementation of the proposed housing projects would result in a net increase in impervious surface area at the Lot 15, Bradley, and Drake Stadium sites; a net decrease in impervious surface at the UNEX site; and no notable change in pervious/impervious conditions at the Warren Hall site. Overall, the proposed housing projects would result in a net increase in pervious surface area. For the Lot 15, Bradley, and Drake Stadium sites, the increase in impervious surfaces would result in an increase in storm water flow rates and volumes. PP 4.7-5 provides measures to be implemented to reduce runoff from the project sites, and MM 4.7-1 requires the utilization of appropriate BMPs for NPDES compliance that would also apply to the proposed housing projects.

As identified in the March 2009 LRDP Amendment Final EIR, for each of the housing sites, the Final EIR PPs and MMs would be supplemented with good housekeeping procedures such as those listed below, which are applicable to all five sites. It is noted these practices are not necessary to reduce the potential water quality impact to a less than significant level.

- **Contain Waste.** Dispose of all construction waste in designated areas and keep storm water from flowing onto or off of these areas.
- **Minimize Disturbed Areas.** Clear land that would only be actively under construction in the near term, minimize new land disturbance during the rainy season, and avoid disturbing sensitive areas or areas that would not be affected by construction.
- **Stabilize Disturbed Areas.** Provide temporary stabilization of disturbed soils whenever active construction is not occurring on a portion of a site and provide permanent stabilization by finish grading and landscaping.
- **Protect Slopes and Channels.** Outside the approved grading plan area, avoid disturbing steep or unstable slopes, and safely convey runoff from slopes.
- **Control the Site Perimeter.** Upstream runoff should be diverted around or safely conveyed through the project sites and should be free of excessive sediment and other constituents.

- **Control Internal Erosion.** Detain sediment-laden waters from disturbed, active areas within the sites.

The change in drainage patterns at the project sites would not contribute to erosion, siltation, or flooding on or off site because the overall drainage patterns would remain similar to the existing conditions at each project site and because the rate and volume of storm water runoff discharging from each project site would remain similar or would be less than the existing condition with incorporation of the 2009 LRDP Amendment EIR's PPs and MMs as well as good housekeeping practices listed above. Consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be less than significant impacts related to drainage patterns, and no additional mitigation is required.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have less than significant impacts related to (1) altering the existing drainage pattern in a manner that would result in substantial erosion or siltation on or off the site and (2) altering the existing drainage pattern or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off the site.

Threshold 8.6	Would the project create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?
Threshold 8.7	Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The analysis of Impact 4.7-5 in the March 2009 LRDP Amendment Final EIR regarding storm drain system capacity concluded that there would be less than significant impacts with implementation of PP 4.7-1, PP 4.7-5, and MM 4.7-1.

As discussed under Thresholds 8.1 and 8.2, the proposed housing projects would result in less than significant impacts related to water quality (e.g., additional sources of polluted runoff).

The proposed housing projects would result in the construction of structures, streets, and other impermeable surfaces that would increase runoff to the storm drain system on and off campus. As described in Section 4.8.1, Environmental Setting, there is existing infrastructure within roadways surrounding the project sites to serve the proposed housing projects. As described in Section 3.5.5, Utility Infrastructure, of this Draft SEIR, the proposed housing projects would include the installation of new storm drain lines and other required drainage facilities to serve the proposed development, and storm water runoff would flow to the same discharge points as occurs under existing conditions. As discussed under Thresholds 8.3 and 8.4, with incorporation of required BMPs, the proposed housing project would result in less than significant impacts related to the rate and volume of storm water runoff discharging from each project site into the municipal storm drainage system. Development of each project site would involve implementation of appropriate storm water management BMPs to meet LID standards, for both quantity and quality of storm water runoff, consistent with the campus' MS4 permit requirements and as per PP 4.7-1, PP 4.7-5, and MM 4.7-1. Therefore, implementation of the proposed Project would not create or

contribute additional sources of polluted runoff, nor would it require or result in the construction of new or expanded storm water drainage facilities, beyond new connections to existing storm water pipelines.

Construction activities associated with the proposed on-site storm drain facilities would be within the physical impact area identified for each site, as shown on Figures 3-18 through 3-21 in Section 3 of this Draft SEIR, and evaluated throughout this Draft SEIR (e.g., Sections 4.2 [Air Quality], 4.9 [Noise and Vibration], and 4.13 [Transportation/Traffic]). No additional impacts associated with construction of on-site storm drains or connections to existing facilities would occur. Consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be less than significant impacts related to polluted runoff or storm drainage system capacity with implementation of March 2009 LRDP Amendment Final EIR PP 4.7-1, PP 4.7-5, and MM 4.7-1, and no additional mitigation is required.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have less than significant impacts related to (1) creating or contributing to runoff water that would exceed the capacity of existing or planned storm water drainage systems and (2) requiring or resulting in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Threshold 8.8	Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
Threshold 8.9	Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?
Threshold 8.10	Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
Threshold 8.11	Would the project cause inundation by seiche, tsunami, or mudflow?

Based on the Initial Study prepared for the March 2009 LRDP Amendment Draft EIR, implementation of the remaining development allocation on campus was determined to have no impacts related to development within a 100-year flood hazard area; flooding as a result of failure of a levee or dam; or inundation by seiche, tsunami, or mudflow. These issues were not carried forward for further discussion in the Draft EIR. Based on a current review of the City's Zoning Information and Map Access Site (ZIMAS), no part of the campus is within a tsunami inundation zone (City of Los Angeles 2017). Additionally, the project sites are not within a 100-year flood hazard area designated by FEMA. Specifically, the five project sites are within Zone X-designated areas, which are outside the 100- or 500-year floodplains. Therefore, implementation of the proposed housing projects would not place housing or structures within a 100-year flood hazard area, and the proposed structures would not be susceptible to tsunami. There are no slopes on or near the campus that would constitute a risk of mudflows. Consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be no impacts related to placing housing

or structures within a flood hazard area, nor would there be a risk of tsunami or mudflow; no mitigation is required.

As noted above, the nearest up-gradient reservoir is Stone Canyon Reservoir and its associated Stone Canyon Dam, which are located approximately two miles north of the campus. As documented in the LRDP Final EIR, the campus is not susceptible to up-gradient reservoirs (i.e., dams and other enclosed bodies of water) that can be a source of failure and/or seiche. Consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be no impacts related to inundation from failure of a levee or dam, or from seiche, and no mitigation is required.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have no impact related to (1) placement of housing within a 100-year flood hazard area; (2) placement of structures within a 100-year flood hazard area that would impede or redirect flood flows; (3) exposure of people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; or (4) inundation by seiche, tsunami, or mudflow.

4.8.4 CUMULATIVE IMPACTS

As identified in the March 2009 LRDP Amendment Final EIR, the geographic context for the hydrology and water quality cumulative impact analysis is the Ballona Creek Watershed (UCLA 2009). This watershed consists of 130 square miles between the Santa Monica Mountains, the Harbor Freeway (State Route 110), and the Baldwin Hills. The geographic context also includes the Santa Monica Groundwater Basin, which underlies the campus and its vicinity. The analysis accounts for all anticipated cumulative growth in this geographic area, as represented by full implementation of the remaining development allocation on campus , the *City of Los Angeles General Plan Framework*, and development of the related projects provided in Table 4-1, Related Projects, in Section 4.0, Introduction to the Environmental Analysis of this Draft SEIR.

Cumulative development would not violate water quality standards or waste discharge requirements and thereby would not result in a significant cumulative impact. The area that composes the geographic context for this analysis consisted of only 17 percent open space, with the remainder being used for urban land uses (UCLA 2009). In addition, much of the open space area is composed of parks, golf courses, and natural areas in the Santa Monica Mountains. Consequently, it is not expected that full implementation of the General Plan Framework would result in the conversion of large amounts of open space to urban uses, and it is therefore not expected that there would be a significant increase in runoff. Implementation of NPDES Phase I and II requirements or, for projects disturbing less than one acre not located on campus, California Green Building Standards Code (CALGreen) requirements (i.e., 2017 Los Angeles Green Building Code) would ensure that cumulative development does not result in higher than allowed concentrations of pollutants in storm water discharges. As noted above, the five project sites each have one acre or more of ground disturbance. Additionally, future development would be required to comply with sewage discharge laws and to obtain the proper permits. The proposed housing projects' contribution to cumulative water quality impacts is not considerable and less than significant because, overall among the five sites, a relatively small amount of permeable surface is being removed; the type of pollutants contained in campus runoff would not change; and the campus would implement appropriate BMPs to ensure compliance with applicable regulations, including the LID requirements of the campus' MS4 permit.

Continued development in the campus vicinity would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The campus sits atop the Santa Monica Groundwater Basin. The LADWP, which supplies water to the City, does not pump water from this basin (LADWP 2016). Consequently, cumulative development in the City of Los Angeles would not adversely affect water levels or supplies in the Santa Monica Groundwater Basin. The LADWP does pump water from the San Fernando, Sylmar, and Central Basins. All three of these basins have been adjudicated by the courts and have binding court orders that administer their usage. These court orders have been designed to maintain adequate water supplies and to protect their integrity. LADWP pumping practices would conform with these court orders and consequently would not result in substantial depletion in supplies; thus, no cumulative significant impact is expected. The contribution of the proposed housing projects would also be less than significant because the campus does not pump its own groundwater, but rather only receives water from the LADWP, whose pumping practices are sustainable (LADWP 2016). Additionally, the campus is not designated as a recharge area and is not a primary area for recharge via natural percolation. Therefore, the proposed Project's contribution to cumulative impacts related to groundwater recharge would not be considerable.

It is not expected that cumulative development would substantially alter the existing drainage pattern of the area (including through the alteration of the course of a stream or river) in such a manner that would result in substantial erosion or siltation, flooding, or the exceedance of existing or planned storm water drainage systems. As mentioned previously, the Ballona Creek Watershed is composed mainly of urban uses, with remaining open spaces being devoted to uses not likely to be developed. As a result, most of the drainage system in the watershed consists of engineered storm channels and is therefore expected to experience little change. Additionally, as extensive development is not expected in the remaining open spaces, it is unlikely that there would be substantial alteration of drainage systems and watercourses in those areas. This indicates that the amount of runoff would not substantially increase, thereby avoiding substantial increases in erosion, siltation, flooding and preventing the exceedance of the storm water drainage system. New development would also be required to comply with NPDES Phases I and II (or CALGreen) and to adopt BMPs to reduce the occurrence of erosion and siltation. The proposed housing projects would not contribute to cumulatively considerable drainage impacts because the on-site drainage pattern, amount of runoff, and storm drain infrastructure would essentially be similar to the existing condition.

Additionally, cumulative development is not expected to result in or require the construction of new storm water drainage facilities or the expansion of existing facilities, resulting in significant environmental effects. Extensive future development is not expected to take place in previously undeveloped areas, thereby necessitating the expansion or creation of storm water drainage facilities. While future development may require that there be some localized modifications or additions to the existing storm water drainage system, it is expected that these modifications or additions would not be extensive. Consequently, it is not expected that there would be a significant cumulative impact. Implementation of the proposed housing projects would result in a net increase in impervious surfaces; however, with implementation of appropriate BMPs (as required through PP 4.7-1, PP 4.7-5, and MM 4.7-1 from the 2009 LRDP Amendment Final EIR) the off-site runoff rates and volumes would be similar to the existing conditions. While there may be some extensions of drainage systems to the project sites, these extensions would be relatively minor and would not result in significant environmental effects, as addressed through this Draft SEIR. Therefore, the proposed Project's contribution to potential impacts would not be cumulatively considerable and is less than significant with the above noted PPs and MM 4.7-1.

It should be noted that the *City of Los Angeles General Plan Framework EIR* came to the conclusion that "[f]urther urbanization of Los Angeles County will result in a continuing increase

in storm water runoff, water quality degradation and exposure of persons and property to floodplain hazards" (City of Los Angeles 1996). However, for all the reasons stated above, the proposed Project's contribution would nevertheless not be cumulatively considerable and is less than significant.

4.8.5 REFERENCES

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4.9 LAND USE AND PLANNING

Land use and planning issues are addressed in Section 4.8 of the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR) (UCLA 2009a). This section describes existing land uses within and surrounding the five proposed housing sites and evaluates the potential for land use impacts associated with implementation of the proposed Project. Data used in preparing this section was primarily obtained from previous environmental documentation prepared by the University of California, Los Angeles (UCLA); review of relevant planning programs; site reconnaissance; and other sources as cited in this section and listed in Section 4.9.5, References.

Relevant elements of the proposed Project related to land use and planning include:

- The development, or redevelopment, of five in-fill sites to provide additional on-campus student housing (up to 6,900 beds), which reduces vehicle miles traveled and energy consumption (as required by campus Program, Practice, and Procedure [PP] 4.8-1[b]). Each of the proposed housing sites is located in a high quality transit area (HQTA), and the Warren Hall, UNEX, and Bradley sites are also located in an existing Transit Priority Area, which is an area within 0.5-mile of a major transit stop.
- A proposed LRDP Amendment to add 1,500,000 gross square feet (gsf) of development allocation to accommodate the proposed student housing (based on the proposed development of 1,715,000 gsf of new building space and demolition of approximately 215,000 gsf of existing uses)
- A net decrease of 149 parking spaces, which encourages the use of transit and non-vehicular modes of transportation. No new parking spaces would be provided for student residents or staff.
- A modification to the Stipulated Agreement of Compromise and Order (Order) between the Westwood Hills Property Owners Association (WHPOA) and The Regents of the University of California (Regents) to exclude the proposed housing project at the Lot 15 site from the provisions outlined in the Order.
- The generation of up to 145 jobs.

It is noted that, of the proposed 6,900 beds, 488 beds would be for graduate student housing at the Warren Hall site. The proposed Project would not increase the student enrollment at UCLA; as such, there would not be an increase in the on-campus student population.

The project characteristics identified above regarding infill development, proximity to transit, elimination of parking, which reduce vehicular travel (and associated fuel consumption), and the discussion in this section related to these issues, demonstrate how the proposed Project avoids or otherwise reduces inefficient, wasteful, and unnecessary consumption of energy per CEQA Guidelines and Statute Appendix F and section 21100(b)(c). Further discussion of energy conservation is provided in Section 6.7 of this Draft SEIR.

Four Notice of Preparation (NOP) comment letters were received addressing land use and planning-related issues. The California Department of Transportation (Caltrans) identifies a number of regional and State-level policy goals related to sustainable transportation and reduction of vehicular trips. The Southern California Association of Government's (SCAG) *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016–2040 RTP/SCS) is discussed in this section; programs and regulations addressing greenhouse gas (GHG) emissions are discussed in Section 4.6.1 of this Draft SEIR; and programs related to alternative modes of

transportation are addressed in Section 4.13, Transportation/Traffic, of this Draft SEIR. The WHPOA NOP comment letter indicates that the Draft SEIR should (1) acknowledge UCLA's responsibility to the WHPOA under the terms of the Order between the WHPOA and the University and (2) address mitigation regarding access, lighting, noise, group activities, and lighting, as identified in the Order. One individual indicates that the size of the proposed structures at the Lot 15 site do not "fit in this locale", and another individual requests that proposed modifications to "use restrictions within a portion of the Northwest zone" be explained. It should be noted that the latter is referring to modifications to the Order between the WHPOA and the University, as further discussed in this section.

4.9.1 ENVIRONMENTAL SETTING

The baseline condition for the discussion of land use and planning programs is the existing condition when the NOP was published in May 2017. The only changes in conditions since the NOP was published known to the University are as follows: (1) the Wasserman Football Center on campus, which is located adjacent to Spaulding Field, has been completed and opened in July 2017 and (2) the previously approved UCLA Margan Apartments Redevelopment Project, which is generally located between the Warren Hall and UNEX sites, is under construction (remediation activities have been initiated and demolition is planned for fall 2017).

UCLA Campus and Surrounding Areas

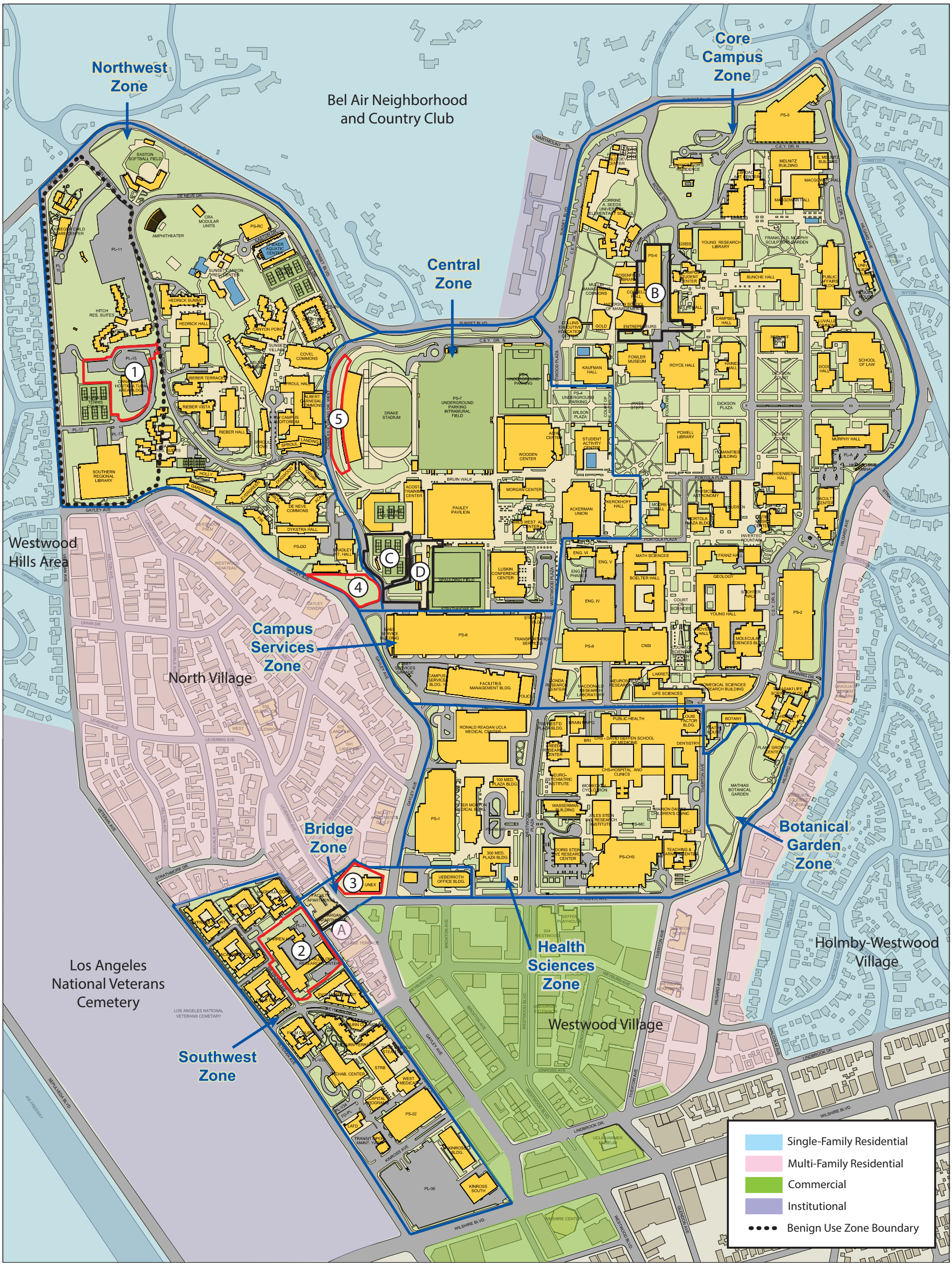
A detailed discussion of the UCLA campus and surrounding areas is provided in Section 4.8, Land Use and Planning, of the March 2009 LRDP Amendment Final EIR. Although there has been ongoing development on campus, as anticipated by the 2002 LRDP, as amended in March 2009 (Existing LRDP), and in the surrounding community, there have not been notable changes in the overall environmental setting of the campus and surrounding areas. Following is a summary of the land use setting of the campus and surrounding areas.

The UCLA campus is located in the community of Westwood in the City of Los Angeles, approximately 12 miles northwest of downtown Los Angeles and 6 miles east of the Pacific Ocean. The UCLA campus is bound by Le Conte Avenue and Gayley Avenue to the south, Veteran Avenue to the west, Sunset Boulevard to the north, and Hilgard Avenue to the east. An additional area of the campus, known as the Southwest zone, is located immediately north of Wilshire Boulevard generally between Gayley Avenue and Veteran Avenue. The campus is primarily surrounded by residential land uses, with the exception of the Westwood Village commercial area to the south of the main campus zones and east of the Southwest zone, and a section of the Los Angeles National Cemetery to the west.

The approximate 419-acre campus has been developed with a variety of academic and related uses, with facilities dedicated to instruction, research, support, recreation, medical, and housing uses. As shown in Table 3-8 in Section 3.0 of this Draft SEIR, UCLA currently has approximately 18,670,007 gsf of space that is either occupied, is currently under construction, or is approved; this represents the existing "baseline" condition on campus. Figure 4.9-1 conceptually illustrates the campus, the campus land use zones, and surrounding areas. The proposed housing sites are located in the Northwest zone (Lot 15 and Bradley sites), Southwest zone (Warren Hall site), Bridge zone (UNEX site), and Central zone (Drake Stadium site), as further discussed below.

As shown in Figure 4.9-1, general land uses surrounding the campus are as follows:

- **North.** North of the campus is the Bel Air single-family residential neighborhood and Marymount High School.



Proposed Housing Sites

1. Lot 15
2. Warren Hall
3. UNEX
4. Bradley
5. Drake Stadium

On Campus Construction Projects

- A. Margan Apartments Redevelopment
- B. Anderson School Building Addition
- C. Mo Ostin Basketball Center
- D. Wasserman Football Center (Completed)

Source: UCLA 2014

Existing Land Uses and Campus Zones

Figure 4.9-1

UCLA LRDP Amendment (2017) and Student Housing Projects

PSOMAS

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- **South.** South of Le Conte Avenue is the commercial district of Westwood Village, which consists of retail shops, movie theaters, restaurants, and office buildings.
- **East.** East of Hilgard Avenue are sorority houses, apartment buildings, and the Holmby-Westwood single-family residential neighborhood.
- **West.** Gayley Avenue runs in a north and northwest direction along the western boundary of the campus. South and west of Gayley Avenue is the North Village multi-family residential neighborhood, which primarily consists of fraternity houses and apartment buildings. West of Veteran Avenue is the Westwood Hills single-family residential neighborhood and the Los Angeles National Cemetery.

The majority of new development expected in the area surrounding the campus would likely be small in scale, unless parcels are assembled and existing buildings are demolished. Projects in the vicinity of the UCLA campus that are either recently constructed, currently approved, or have applications pending with the City of Los Angeles Planning Department, or are reasonably foreseeable are described in Table 4-1, City of Los Angeles List of Cumulative Projects, in Section 4.0, Introduction to the Environmental Analysis, of this Draft SEIR.

Proposed Housing Sites

Lot 15 and Bradley Sites (Northwest Zone)

The Lot 15 and Bradley housing sites are located in the Northwest zone. The Northwest zone constitutes approximately 90.5 acres of the 419.0-acre UCLA campus; it primarily includes residential and recreational uses as well as other functions that support housing and the greater academic community.

With respect to residential uses, under existing conditions, there are approximately 12,800 undergraduate beds available (based on occupancy in fall 2017) in various residence halls (Dykstra, Hedrick, Rieber, Sproul, De Neve, Gardenia Way, Holly Ridge, and Sproul Cove and Landing) and residential suites and plazas (Hitch, Hedrick Summit, Rieber Terrace, Rieber Vista, Saxon, and Sunset Village). Both within and among these residential communities, buildings vary from one another in their housing capacity, density, height, amenities, and architectural character. Dykstra, Hedrick, Rieber, and Sproul Halls represent late-1950s/early-1960s modern architecture and are seven- to ten-story buildings. The Hitch and Saxon Residential Suites (completed in 1981 and recently renovated) are three-story buildings, while Courtside, Canyon Point, Delta Terrace, and De Neve Plaza are modern three- to four-story buildings covered with stucco. Hedrick Summit, Rieber Terrace, and Rieber Vista were completed in 2005, and are compatible in character with the earlier residence halls. The Gardenia Way and Holly Ridge residence halls in the De Neve Plaza were completed in 2012, and the Cove and Landing buildings in the Sproul complex were completed in 2013. These buildings range from six- to nine-stories.

The Northwest zone includes various housing support uses (e.g., administration, dining, fitness/recreation, study area, etc.) and uses that support the greater academic community (Southern Regional Library and the Krieger Child Care Center). The Bradley International Hall is located adjacent to and north of the Bradley site, and houses, among other uses, the Dashew Center for International Students and the Office of Residential Life. The Southern Regional Library is located southwest of the Lot 15 site. The Krieger Child Care Center, located off Bellagio Drive near Veteran Avenue and Sunset Boulevard, provides child care services for University employees.

The Northwest zone also includes campus-wide recreational and athletic facilities (designated as recreational open space in the Existing LRDP), such as Sycamore Park, the Sunset Canyon Recreation Center, Sunset Canyon Tennis Courts, and Easton Stadium. Sycamore Park includes the Sycamore Tennis Courts adjacent to and west of the Lot 15 site (6 courts for daytime use only), a pitch and putt golf facility south of the tennis courts, and lawn areas. The Sunset Canyon Recreation Center, located south and west of De Neve Drive, offers year-round recreation featuring a 50-meter pool, a 25-meter family pool, picnic/barbecue areas, sand volleyball courts for NCAA practice and competition, and large grass areas, an amphitheater, and various meeting rooms and lounges. The Spieker Aquatic Center, a 52-meter by 25-yard competition swimming pool and diving facility is also located in the Sunset Canyon Recreation area. The Sunset Canyon Tennis Courts, adjacent to and south of the Spieker Aquatic Center, includes six lighted regulation courts. Easton Stadium, located southeast of Bellagio Drive and Sunset Boulevard, is for NCAA practice and competitive softball events.

There are various parking facilities that support the housing, administration, academic, and recreational uses in the Northwest zone. A parking structure serves Sunset Canyon Recreation Center (PRC structure), while the majority of parking in the Northwest zone is accommodated by Dykstra Hall (PDD structure); the Sunset Village Parking Structure (PSV); and surface lots 10, 11, 13, 15, and 17.

Information about both the Lot 15 and Bradley sites is provided below.

- **Lot 15 Site.** The Lot 15 site encompasses approximately 3.1 acres and is located generally west of De Neve Drive, south of the existing Hitch Suites, and north of the existing Saxon Suites. Generally, the elevation at Lot 15 is approximately 512 to 513 feet above mean sea level (msl) and the lower pad is approximately 496 to 497 feet above msl. The site survey for the Lot 15 site, which depicts its existing conditions, is provided on Figure 3-3 in Section 3.0, Project Description, of this Draft SEIR. The proposed housing site generally consists of two roughly level pads (referred to herein as the upper pad and lower pad) separated by an approximate 15-foot-high south-facing slope. The upper pad is currently consists of a previous surface parking lot (Lot 15) that is currently used for a portable office structure, and storage containers. The lower pad is currently occupied by a greenhouse and facilities used by the UCLA Housing and Facilities Management departments for storage of parts, material, and plants (Ornamental Horticultural Area buildings). Topography at the site has been altered by past grading associated with the construction of the current site uses. Existing uses surrounding the Lot 15 site include the Hitch and Saxon residential suites to the north and southeast, respectively; Sycamore Tennis Courts (discussed above), a paved access road, and Lot 17 to the south; the Southern Regional Library to the southwest; and an un-paved access road and area used for storage and maintenance to the west/northwest. De Neve Drive forms the eastern site boundary, with existing student housing (i.e., Hedrick Hall, Rieber Hall) further to the east.

  It should be noted that the 1978 Stipulated Agreement of Compromise and Order entered by the Los Angeles Superior Court resolving litigation filed by the Westwood Hills Property Owners Association against The Regents imposes certain restrictions on development on Lot 15, and is further discussed below.

- **Bradley Site.** The Bradley site encompasses approximately 1.1 acres and consists of the undeveloped grassy knoll adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive, a designated campus entry, south of the Bradley International Hall. The site survey for the Bradley site is provided on Figure 3-4 in Section 3.0. Elevations at the site range from approximately 401 feet above msl along the northern site boundary to approximately 368 feet above msl adjacent to Strathmore Drive, along the southeastern

site boundary. The site slopes gently to the east, west, and south. Surrounding uses on campus include Bradley Hall to the north, the Mo Ostin Basketball Center to the east (under construction and across Charles E. Young Drive West), and Parking Structure 8 to the south (across Strathmore Drive). Spaulding Field, an important athletic practice field that is a designated recreational open area, is east of the site; the Mo Ostin Basketball Center and Wasserman Football Center provide a physical barrier between the site and the field. Gayley Avenue forms the western boundary of this site, and off-campus residential uses west of Gayley Avenue include various fraternity houses, the UCLA-owned Gayley Tower Apartments, and University Lutheran Chapel (not affiliated with UCLA).

Warren Hall Site (Southwest Zone)

The Warren Hall site encompasses approximately 3.9 acres and is located in the 35.5-acre Southwest zone. The Southwest zone is occupied by a variety of uses including, but not limited to, surface and structured parking (surface lots 36, V33, and 31 and structure P32), graduate student housing, medical research and clinical functions, administrative functions, scientific research, transit facilities, a steam plant, the relocated Kinross Recreation Center (KREC) facility, and Los Angeles Fire Station No. 37. The UCLA Geffen Academy, which will hold its first classes in the fall 2017, is also located in the Southwest zone, adjacent to and east of parking lot 36 (in what were previously referred to as “the Kinross North and South Buildings”).

This Warren Hall site (900 Weyburn Place North) is currently developed with Warren Hall, which houses various office uses and research facilities, and the Hillblom Islet Research Center (refer to the site survey provided on Figure 3-5 in Section 3.0). Warren Hall, built in 1961, is a 2-level, approximate 102,205-gsf building with a partial basement that is U-shaped in plan and designed in the Midcentury Modern style. The Hillblom Islet Research Center was added to the southeastern portion of the site in 2004 (approximately 7,200 gsf). On-site surface parking lots (including Lot 31) serve these uses.

As further discussed in Section 4.4, Cultural Resources/Tribal Cultural Resources, Warren Hall is eligible for listing in the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) because (1) it is the best representation of UCLA’s involvement with the Atomic Energy Commission’s biomedical research and its contribution to the development of the nuclear medicine field and (2) it embodies the distinctive characteristics of the Midcentury Modern architectural style.

The site slopes to the southwest with site elevation ranging from approximately 390 feet above msl in the northeast corner to 360 feet above msl in the southwest corner.

To the north, west, and south, three- to nine-level on-campus graduate student residential buildings surround Warren Hall. Landscaping and walking paths provide buffers between the site and housing to the north, west, and south. To the east, an alley (Weyburn Place) separates the site from the rear of multi-family apartment complexes fronting Levering Avenue, a few of which are also owned by UCLA. Notably, the University-owned Margan Apartment building (discussed below) and Levering Faculty apartment building in the Bridge zone are adjacent to the northern portion of the site.

UNEX Site (Bridge zone)

This site is located in the Bridge zone at 10995–10997 Le Conte Avenue, in the northwest quadrant of the Le Conte Avenue/Gayley Avenue intersection and east of Levering Avenue. The Bridge zone, which contains approximately 5 acres of the 419-acre UCLA campus, forms a physical land connection between the main campus zones and the Southwest zone. In addition to the UNEX Building, this zone contains the Ueberroth Building, which houses various UCLA

offices; Margan student apartments; and Levering Faculty apartment building. It should be noted that the Margan apartment building, which was existing when the Notice of Preparation (NOP) for the proposed Project was released, is scheduled to be demolished in fall 2017. This site will be redeveloped with new undergraduate student housing and is expected to be completed in fall 2019.

The UNEX site encompasses approximately 1 acre and is currently developed with the 8-level (including partial ground level) approximate 93,204-gsf UNEX building constructed in 1971, which houses the UCLA University Extension Program; a small parking lot; and a service driveway (refer to the site survey provided on Figure 3-6 in Section 3.0). The UCLA University Extension Program provides certificate programs and continuing higher education classes. The UNEX building is one of various locations from which the Extension program operates. This building currently serves as the administration building for UCLA Extension Program; therefore, it is occupied largely with office space with some classroom uses. The existing UNEX building is seismically deficient.

The elevation at this site ranges from approximately 340 feet above msl in the southeast corner to approximately 378 feet above msl at the top of the slope in the northern portion of the site. The site is surrounded by residential uses to the north (off campus) and west (on and off campus); a gas station and other commercial uses in Westwood Village to the south; and on-campus uses in the Health Sciences zone to the east, including the Ueberroth building.

Drake Stadium Site (Central Zone)

This site is located in the Central zone at Drake Stadium (340 Charles E. Young Drive North), south of Sunset Boulevard and east of Charles E. Young Drive West. The approximate 61.5-acre Central zone contains most of the campus recreational and athletic facilities and playing fields; it also includes student activity centers and underground parking (PS7 and PS4).

The Drake Stadium site encompasses approximately 1.3 acres and is the home of UCLA's soccer and track and field teams (refer to the site survey provided on Figure 3-7). Drake Stadium, a designated recreational open area, accommodates a 400-meter, 9-lane running track; a soccer field; and a grass field space. The grass infield is named Marshall Field, and is also a designated recreational open area. The stadium accommodates approximately 11,700 spectators. The concourse is located on the west side of the stadium.

The elevation at the concourse is approximately 420 feet above msl. There is an existing landscaped area along the length of the concourse that slopes up from the concourse to Charles E. Young Drive West (the elevation ranges from approximately 420 feet to 442 feet above msl).

The Intramural Field and North Athletic Field (both of which have underground parking) are located to the east of Drake Stadium. To the northwest, west, and southwest, three- to seven-level on-campus student residential buildings and commons (i.e., Sproul, De Neve) are present across Charles E. Young Drive West. The Drake Stadium site is located adjacent to and north of Bruin Walk, an important east-west pedestrian pathway. Straus Stadium, the Acosta Training Center, and Pauley Pavilion are located to the south-southeast beyond Bruin Walk. The Drake Stadium site is visible from various campus-designated open space "preserves" east of the site, including Wilson Plaza, Dickson Plaza, and Janss Steps (refer to additional information about views from these uses in Section 4.1, Aesthetics, of this Draft SEIR).To the north, a landscape buffer and off-campus, single-family residences are located across Sunset Boulevard.

4.9.2 REGULATORY FRAMEWORK

Section 4.8 of the March 2009 LRDP Amendment Final EIR provides a complete discussion of the regulatory framework for the analysis of land use and planning for campus projects. The following discussion focuses on regulatory information presented in the LRDP Final EIR that has been updated since March 2009 and/or is particularly relevant to the proposed Project.

University of California, Los Angeles

Following is a description of UCLA land use-related planning programs relevant to development on campus. University of California (UC) policies/programs relevant to other topical issues (e.g., greenhouse gas emissions) are discussed in the respective sections of this Draft SEIR. The proposed Project's consistency with UCLA planning programs is addressed in Threshold 9.3.

UCLA 2002 Long Range Development Plan, as amended in March 2009

Campus Land Uses and Development

The current/existing UCLA LRDP—defined by statute (*California Public Resources Code,* Section 21080.09[2]) as a "physical development and land use plan to meet the academic and institutional objectives for a particular campus or medical center of public higher education"—is the 2002 LRDP, as amended in March 2009. The amendment to the 2002 LRDP was adopted by the UC Board of Regents (The Regents) in March 2009, following certification of an accompanying Final EIR in accordance with the California Environmental Quality Act (CEQA).

The Existing LRDP includes a discussion of the planning context for the campus, providing information about the student enrollment and campus population; grounds and buildings (i.e., development on campus, open space and landscape, circulation, utility infrastructure renovation, rehabilitation, and seismic upgrades, and environmental sustainability); and campus-community interface.

The LRDP guides the physical development of the campus to serve its teaching, research, and public service mission. In general, the Existing LRDP (1) provides a land use map to guide the siting of future campus facilities; (2) estimates the net building space required to achieve the campus academic and research goals; and (3) articulates planning principles (or LRDP objectives) to guide the physical planning process.

The primary objective of the Existing LRDP is to establish a land use plan that represents the best possible relationship among UCLA academic goals, faculty and student needs, site characteristics, and integration with the surrounding community. It remains the same as in the previous LRDPs approved by The Regents in 1963, 1983, 1990, and 2002. The 2002 LRDP, as amended in March 2009, retains the basic land use designations of the 1990 LRDP (including academic, recreational, residential, health sciences, and other land uses) contained in the same eight land use zones envisioned in the 1990 LRDP. Campus land use zones are shown on Figure 4.9-1. Space allocations in the campus land use zones serve as "capacity envelopes" and are sized to accommodate projected needs within the planning horizon of the current LRDP. The use of these capacity envelopes is intended to provide future flexibility; to accommodate changes in program space requirements; and to respond to needs and circumstances that are not anticipated in the current LRDP.

The Existing LRDP allocated approximately 1.87 million gsf of remaining development allocation on campus between the eight campus zones (UCLA 2009b). Since adoption of the March 2009

Amendment to the 2002 LRDP, approval and construction of various projects has reduced the original 1.87-million-gsf allocation to a remaining approximately 174,615 gsf. As further described in Section 3.7, Long Range Development Plan Amendment (2017), of this Draft SEIR, the proposed Project includes an amendment to the Existing LRDP to allocate an additional 1,500,000 gsf in four campus zones where the proposed housing sites are located (Bridge, Central, Northwest, and Southwest zones). The proposed housing developments would not utilize any of the allocation remaining in the Existing LRDP (refer to Table 3-8 in Section 3.0, Project Description).

Average Daily Trips and Parking

The Existing LRDP identifies the established average daily vehicle trip and parking space limits for the campus (139,500 trips and 25,169 parking spaces, respectively). The vehicle trip and parking space limits have not changed since adoption of the 1990 LRDP, and the campus has never exceeded these limits. Based on the 2016 UCLA State of the Commute, the 2016 daily vehicle count was 105,284; approximately 25 percent below the established trip cap. In addition, there are currently 22,738 parking spaces on campus (UCLA 2016).

Campus Population

Unlike vehicle trips, parking, and development allocation, the Existing LRDP does not establish a population or enrollment cap for the campus. The March 2009 LRDP Amendment Final EIR (Table 4.10-4 of the Final EIR) projected population for students, employees, and visitors out to 2013–2014. The projections were solely for the purpose of conducting impact analyses in the LRDP Final EIR. Subsequently, the UCLA Geffen Academy Final EIR identified an updated campus population baseline condition; it analyzed (1) the increase in population associated with operation of the Geffen Academy and (2) the UC system-wide enrollment increases approved by the UC President and The Regents in November 2015[1] (UCLA 2016b). Table 4.11-2 in Section 4.11, Population and Housing, of this Draft SEIR, describes the baseline conditions (i.e., 2014–2015) and provides projections for 2020 and 2025.[2] As shown in Table 4.11-2, for purposes of this Draft SEIR, the campus 3-quarter weekday (regular session) population for fall 2025 is conservatively projected to be 76,390 individuals.

Student Housing Master Plan 2016–2026

In 1986, UCLA drafted its first comprehensive Student Housing Master Plan (SHMP), which was designed to provide direction to the campus in addressing student housing needs in support of the institution's academic mission. The SHMP has subsequently been updated six times, with the latest update, the *Student Housing Master Plan 2016–2026,* completed in March 2017. A fundamental tenet underlying the housing objectives for the campus has continued to be transforming UCLA from a commuter campus to a residential campus. Notably, the on-campus supply of undergraduate beds has increased from approximately 4,300 to 12,800 in the approximate 30 years since UCLA drafted its first SHMP (UCLA 2017).

Prior to adoption of the SHMP 2016–2026, UCLA provided a three-year housing guarantee to all incoming first-year students and a one-year guarantee to incoming transfer students. For graduate students, UCLA does not currently offer a guarantee beyond spaces allocated for 1,000 students nominated by their departments. The remaining graduate inventory is filled based on

[1] In November 2015, the UC President and The Regents, approved a UC system-wide enrollment increase of 10,000 in-state students. Of that system-wide increase, UCLA will take a total of 1,500 freshman and transfer students over 3 years, beginning with 750 students in fall 2016 and 375 for each of the subsequent years.

[2] Year 2025 is used because it is the anticipated buildout year for the proposed housing projects.

lottery applications and is insufficient to provide a guarantee to all incoming students or meet current demand. UCLA currently accommodates approximately 14,300 undergraduate students (approximately 46 percent of the undergraduate population) in on-campus housing and University-owned apartments within 1 mile of the campus. The campus also provides housing to more than 5,500 graduate students, faculty and staff, and their families. Approximately 3,400 graduate students (24 percent of the graduate population) currently live on campus or in off-campus University-owned housing.

The current demand for housing on campus exceeds existing supply. Even with the additional beds from new developments, redevelopments, conversion of faculty buildings, and renovations, UCLA Housing is meeting current guarantees for undergraduate and transfer students by maintaining higher than desired triple occupancy percentages (putting three students in rooms designed for two students). Without additional beds, the projected enrollment increases for fiscal year (FY) 2017 through FY 2020 will result in triple occupancy that will exceed 75 percent. With respect to graduate and professional student housing, the campus is able to provide housing to approximately 24 percent of graduate and professional students. In addition, the campus is able to provide academic departments with a limited number of bed spaces to allocate to graduate students, but does not have sufficient inventory to guarantee housing to all graduate students (UCLA 2017).

The SHMP 2016–2026 identifies the following key planning principles:

1. University housing is a vital resource to support the recruitment, transition, personal growth and development, academic achievement, retention, and graduation of undergraduate students.
2. Affordability and living options must be considered in developing the student housing program.
3. Limited land and resources require a high density living model in order to maximize the number of students housed, with a focus on a high quality living experience.
4. Housing is a vital resource used to support the recruitment and retention of graduate and professional students.
5. University housing helps create a supportive and cohesive student community by integrating the housing program with other aspects of campus life.
6. Allocation strategies must be refined to ensure that housing resources support both academic program objectives and student recruitment and retention goals.
7. Housing needs of postdoctoral scholars should be addressed after the campus has met the housing needs of graduate and professional students.

The key planning principles led to the following goals in the SHMP 2016–2026, which are applicable to the proposed Project:

Goal 1. University housing will be guaranteed to all entering first-year students for a period of four years.

Goal 2. University housing will be guaranteed to all new transfer students for a period of two years.

Goal 3. University housing will be guaranteed to new graduate and professional students for a period of two years. University housing will be guaranteed to new graduate and

professional student families with dependent children for as long as the student is making normal progress to degree conferment for up to seven years.

UCLA Physical Design Framework

The UCLA Physical Design Framework (Framework) prepared in July 2009 describes the approach for development of buildings, infrastructure, and landscape on the campus within the context of the physical planning objectives contained in the 2002 LRDP, as amended in March 2009 (UCLA 2009c). It also describes the physical design standards that guide new development to enhance the unique campus aesthetic within the constraints of a fully developed urban environment. The Framework describes the design review process that ensures that the LRDP objectives and Physical Design Standards are embodied in all new projects. The Framework is used to ensure compatibility of new development with the existing built environment while continuing to strengthen the vibrant identity and design vernacular of the UCLA campus.

Stipulated Use Agreement with the Westwood Hills Property Owners' Association

A Stipulated Agreement of Compromise and Order (Order) was entered by the Los Angeles Superior Court, February 6, 1978, resolving litigation filed by the Westwood Hills Property Owners Association against The Regents (Los Angeles Superior Court Case No. C180760). The litigation was regarding the then-proposed Residential Suite Complex and Related Parking Project (now referred to as the Hitch and Saxon Residential Suites).

This Order defines an area[3] in the campus Northwest zone (shown on Figure 4.9-1) that will be reserved for "benign use" that includes, but is not limited to (1) open green space; (2) landscape buffer zones; (3) existing ornamental horticultural buildings and parking facilities; and (4) low-intensity, non-spectator, recreational and athletic space. While located within the designated benign use zone, the sites of the Hitch and Saxon Residential Suites are not subject to the use restrictions of the Order. The description of "benign use" excludes, among other things, consideration of a baseball facility in this area. It also identifies that lighting for this area will be provided only as appropriate to, and in keeping with, the benign uses, and no access to the campus from existing City streets adjacent to the benign use zone will be provided or permitted except for emergency purposes. The Order requires the use restriction to remain in effect ". . . unless and until there has been a substantial change of circumstances within the University as to warrant a modification of the use of that portion of the UCLA campus". With respect to the proposed housing site, the Lot 15 site is within the identified benign use zone between the Hitch and Saxon Residential Suites.

Further provisions of the Order require the University to (1) provide a peripheral landscape buffer strip along Veteran Avenue only between Gayley Avenue and the ornamental horticulture buildings (what is now the southern boundary of the Sycamore Tennis Courts); (2) prepare an updated LRDP and required environmental documentation; (3) examine noise from construction of the Hitch and Saxon Residential Suites and reduce noise to the highest degree possible, including by complying with established construction hours; and (4) address community relations procedures through meetings with the campus' surrounding communities and property owners. The University has complied with these provisions. It should be noted that the University has expanded the landscape buffer to extend along the western, northern and eastern campus boundaries (as document in PP 4.1-2[b]), as previously discussed in Section 4.1, Aesthetics, of

[3] The land covered by the Order is bordered by Veteran Avenue on the west side of campus; by Sunset Boulevard to Bellagio Road on the north; by Bellagio Road and De Neve Drive and the line running south to Gayley Avenue from the intersection of De Neve Drive to then existing Lot 13 on the east; and on the south by Gayley Avenue west to Veteran Avenue.

this Draft SEIR. PP 4.9-7(a) identifies the time restrictions for construction activities that are imposed by the University (refer to Section 4.10, Noise, of this Draft SEIR). Further, the University prepared an updated LRDP and associated environmental document in 1983, consistent with the Order. The LRDP was subsequently updated in 1990 and 2002; the 2002 LRDP was amended in March 2009.

Urban Wildlands Group Hillside Use Agreement

On December 11, 2003, The Regents entered into an agreement with The Urban Wildlands Group (Hillside Agreement), imposing certain limitations on the applicability and conclusions of the 2002 LRDP Final EIR. The Hillside Agreement requires environmental review of the impacts on any sensitive natural community (pursuant to Appendix G of the State CEQA Guidelines) due to any significant changes in the then-existing land use on the "hillside area" between Veteran Avenue and Parking Lot 11 in the Northwest zone of campus, and the "immediately adjacent area". These areas are shown in Exhibit A of the Hillside Agreement, which is reproduced as Figure 4.9-2; the hillside area is shown in red, and the immediately adjacent area is shown in blue.

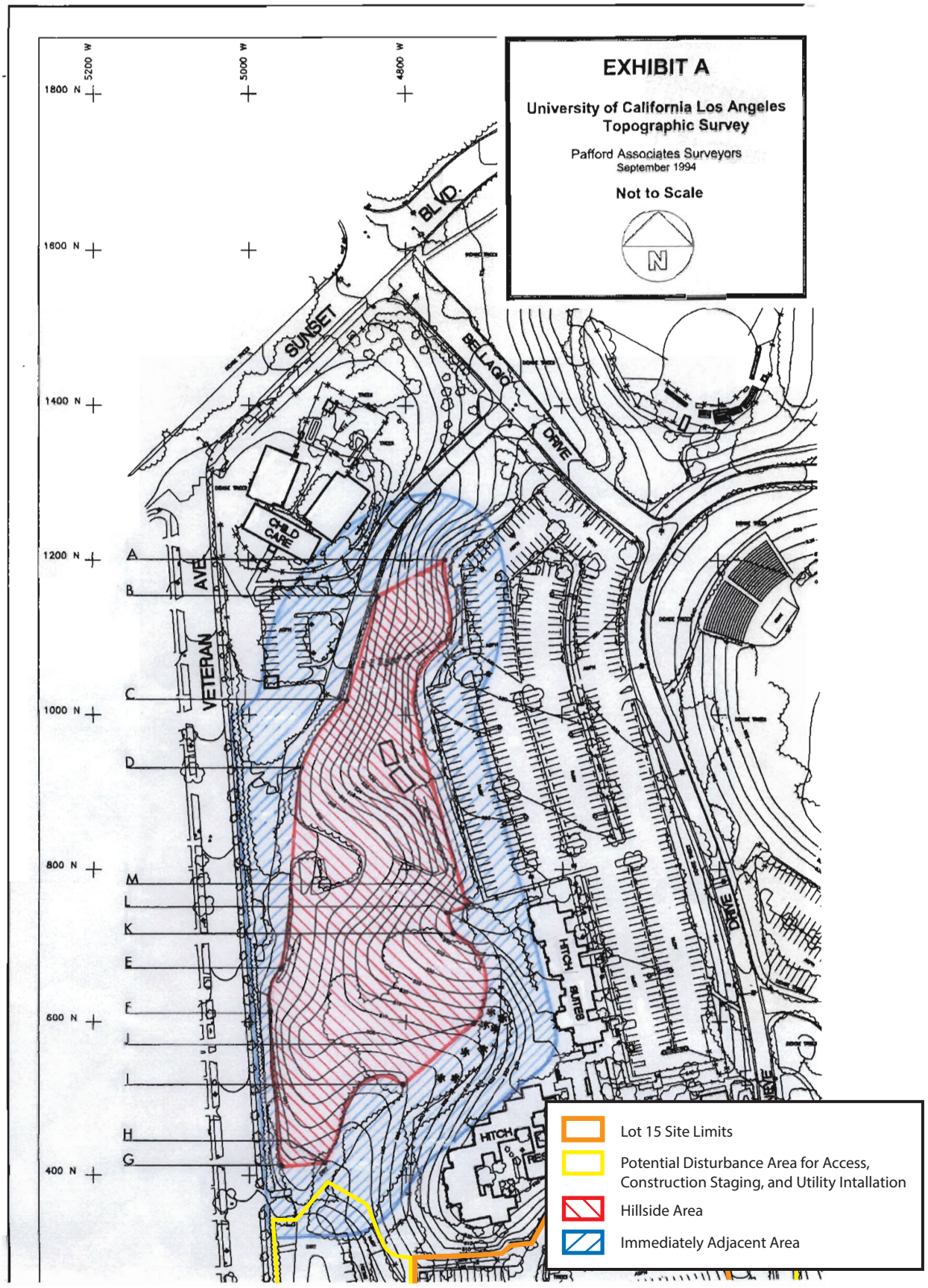
In connection with the Hillside Agreement, the wording of 2002 LRDP Final EIR MM 4.3-1(c), regarding tree replacement, was clarified to more clearly reflect the campus' pre-existing practice. As so clarified, 2002 LRDP EIR MM 4.3-1(c) required that removal of mature trees include a 1:1 tree replacement ratio at the development site where feasible and, if not feasible, then replacement of native shrubs in ecologically appropriate areas within the campus boundaries that would provide nesting, foraging, or roosting habitat for birds so that the replacement number of trees and shrubs will result in a 1:1 replacement ratio. The tree replacement mitigation measure from the 2002 LRDP Final EIR, as clarified pursuant to the Hillside Agreement, was carried forward into the March 2009 LRDP Amendment Final EIR and into this Draft SEIR as MM 4.3-1(c) in Section 4.3, Biological Resources.

Since entering the Hillside Agreement, UCLA has prepared and certified a project-specific EIR for an addition to the existing Child Care Center immediately west of the Hillside Area, and the project was completed in 2006. The EIR for the Krieger Child Care Expansion project studied the potential for the project to result in environmental impacts on any potential sensitive natural communities on the adjacent hillside and, with incorporation of protective measures, found none.

Local Planning Programs

UCLA is part of the UC, a constitutionally created entity of the State of California, with "full powers of organization and government" (Cal. Const. Art. IX, Section 9). Westwood and other surrounding communities are part of the City of Los Angeles. As a constitutionally created State entity, the UC is not subject to municipal regulations of surrounding local governments, such as the City of Los Angeles General Plan or City of Los Angeles land use ordinances. Although there is no formal mechanism for joint planning or the exchange of ideas, UCLA may consider, for coordination purposes, aspects of local plans and policies for the communities surrounding the campus, but it is not bound by those plans and policies in its planning efforts.

The *City of Los Angeles General Plan Framework*, adopted December 1996 (re-adopted August 2001) provides general guidance on land use issues for the entire City. The General Plan consists of the Framework Element, a Land Use Element, and ten citywide elements. For purposes of developing, maintaining, and implementing the land use portion of the General Plan, the City has been divided among 35 community plan areas, which collectively comprise the Land Use Element of the General Plan. The community plans are intended to implement the policies of the General Plan Framework. The UCLA campus is identified in the *Westwood Community Plan,* and is



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Hillside Agreement Areas in Relation to the Lot 15 Site

Figure 4.9-2

UCLA LRDP Amendment (2017) and Student Housing Projects

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identified as "Public Facility" (City of Los Angeles 1999). The City of Los Angeles Generalized Zoning Map also identifies the UCLA campus as "Public Facility". Nonetheless, the UC is not subject to the provisions of the *Westwood Community Plan.*

The campus seeks to maintain an ongoing exchange of ideas and information and to pursue mutually acceptable solutions for issues that confront both the campus and the community. To foster this process, UCLA participates in, and communicates with, City and community organizations and sponsors various meetings and briefings to keep local organizations, associations, and elected representatives apprised of ongoing planning efforts. In an effort to coordinate planning efforts between the surrounding City of Los Angeles communities and the campus, UCLA participated in the development of the *Westwood Community Plan Update*, as well as the *Westwood Village Specific Plan* and the *North Westwood Village Specific Plan*, which are within the *Westwood Community Plan Update* area and lie adjacent to one or more of the proposed housing project sites.

Regional Planning Programs

With respect to regional planning, the Southern California Association of Governments (SCAG) is the Metropolitan Planning Organization (MPO) for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The region encompasses a population exceeding 19 million persons in an area of more than 38,000 square miles. As the designated MPO, the federal government mandates SCAG to research and draw up plans for transportation, growth management, hazardous waste management, and air quality. Among other responsibilities, SCAG reviews EIRs for projects of regional significance for consistency with approved regional plans (SCAG 2017a). The proposed Project would be considered regionally significant by SCAG based on the established criteria in Section 15206 of the State CEQA Guidelines, which is applied by SCAG to determine regional significance (SCAG 2017b). As such, this Draft SEIR provides a consistency analysis for the 2016–2040 RTP/SCS.

SCAG has developed a number of plans to achieve regional objectives. Similar to the Regional Comprehensive Plan and Guide adopted by the Regional Council in 1996 (discussed in the March 2009 LRDP Amendment Final EIR), SCAG developed the Southern California Regional Comprehensive Plan (RCP) as a planning framework for the development and implementation of guidelines applied to both the public and private sectors. The RCP functions as a voluntary "toolbox" to assist local jurisdictions in making their General and Specific plans and individual projects more sustainable. As identified in Resolution No. 08-502-1 (Resolution of the Southern California Association of Governments Accepting the 2008 Regional Comprehensive Plan for the SCAG Region), given its advisory nature, the 2008 RCP is not used in SCAG's Inter-Governmental Review (IGR) process (SCAG 2008). No further discussion of the RCP is warranted for the proposed Project.

The regional plan that is most relevant to the proposed Project is the *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016–2040 RTP/SCS), approved on April 7, 2016. In addition to meeting federal and State transportation planning requirements, the 2016–2040 RTP/SCS (an update to the 2012 RTP/SCS) includes a chapter to comply with California's Senate Bill (SB) 375 mandate for a regional SCS. Per SB 375, the RTP/SCS must outline growth strategies that better integrate land use and transportation planning and help reduce the State's greenhouse gas emissions from cars and light trucks.

The 2016–2040 RTP/SCS highlights regional changes that have affected the development of the plan since the 2012–2035 RTP/SCS, including the region's fluid and dynamic demographic and housing market; the passage of the Moving Ahead for Progress in the 21st Century Act (MAP-

21); state legislation on transportation funding; the rapid advancement of new technologies such as real-time traveler information, on-demand shared mobility services enabled by smartphone applications, or ride-sourcing, car share, and bike share; and the State's continued emphasis on reducing GHG emissions. The 2016–2040 RTP/SCS was also developed with recognition of the progress the region has made since preparation of the 2012–2035 RTP/SCS. The goals of the 2016–2040 RTP/SCS have remained unchanged since the 2012–2035 RTP/SCS. The 2016–2040 RTP/SCS is expected to reduce per capita transportation emissions by 8 percent by 2020 and by 18 percent by 2035 (SCAG 2016a).

The 2016–2040 RTP/SCS identifies "High Quality Transit Areas" (HQTAs), which are places where people live in compact communities and have ready access to a multitude of safe and convenient transportation alternatives to driving alone—including walking and biking, taking the bus, light rail, commuter rail, the subway, and/or shared mobility options. The overall land use pattern in the 2016–2040 RTP/SCS focuses jobs and housing in the region's designated HQTAs that have been identified in the region. The RTP/SCS assumes that 46 percent of new housing and 55 percent of new employment locations developed between 2012 and 2040 will be located within HQTAs, which comprise only three percent of the total land area in the SCAG region. As shown in Figure 4.9-3, each of the proposed housing sites is located in a HQTA (SCAG 2017c), and the Warren Hall, UNEX, and Bradley sites are also located in an existing Transit Priority Area, which is an area within 0.5-mile of a major transit stop (SCAG 2016b).

4.9.3 PROJECT IMPACTS AND MITIGATION

Methods

The analysis in this section focuses on (1) the consistency of the proposed Project with any applicable land use plans, policies, or regulations and (2) the compatibility of the proposed land use with existing and planned land uses within and adjacent to the project area. The analysis is based on previous environmental documentation prepared by UCLA, review of relevant planning programs in relation to the proposed Project, and site reconnaissance.

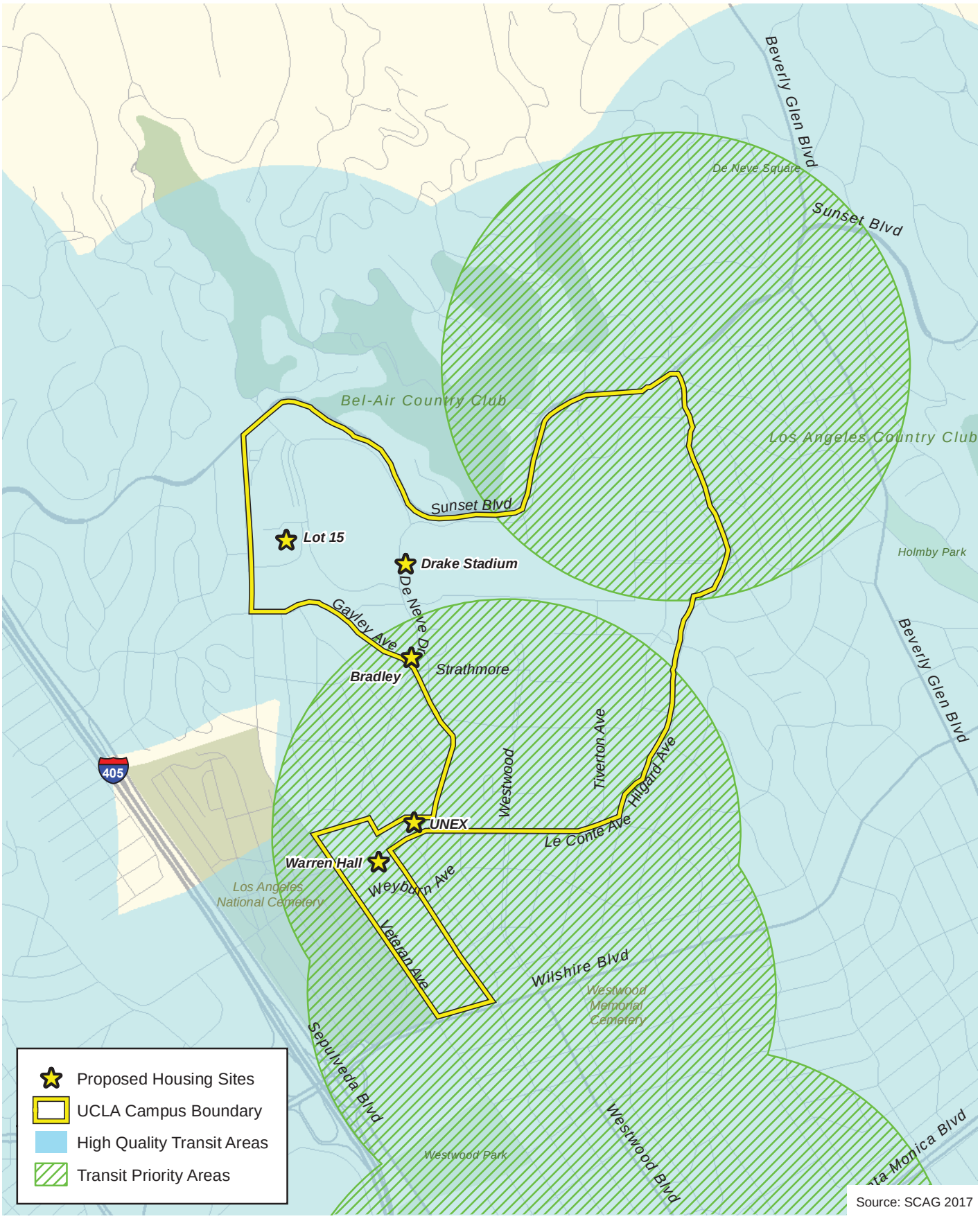
Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, a project will normally have a significant adverse environmental impact related to land use and planning if it will:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Additionally, consistent with the UC checklist and the threshold in the March 2009 LRDP Amendment Final EIR, a project will normally have a significant adverse environmental impact if it will:

- Result in land use incompatibilities between campus development and adjacent community land uses.



Source: SCAG 2017

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High Quality Transit and Transit Priority Areas

Figure 4.9-3

UCLA LRDP Amendment (2017) and Student Housing Projects

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Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 LRDP Amendment Final EIR

The following Programs, Practices, and Procedures (PPs) were adopted as part of the March 2009 LRDP Amendment Final EIR, and are included as part of the proposed Project and are assumed in the analysis presented in this section.

PP 4.8-1(a) *Development of the south edge of the main campus shall be designed to enhance the campus interface with Westwood Village. (Applicable to UNEX site only)*

PP 4.8-1(b) *The existing recreational fields in the Central zone of campus shall be maintained and will continue to provide a buffer between campus development and the residential uses north of Sunset Boulevard. (Applicable to Drake site only)*

PP 4.8-1(c) *Infill development of the campus shall be continued, which reduces vehicle miles traveled and energy consumption.*

PP 4.8-1(d) *New building projects shall be sited to ensure compatibility with existing uses and the height and massing of adjacent facilities.*

PP 4.8-1(e) *Facilities shall be sited and designed to enhance spatial development of the campus while maximizing use of limited land resources.*

Impact Analysis

Threshold 9.1	Would the project physically divide an established community?

Based on the Initial Study prepared for the March 2009 LRDP Amendment Draft EIR, it was concluded that implementation of the remaining development allocation on campus would have no impact related to division of an established community. This issue was not carried forward for further analysis in the Draft EIR.

The Existing LRDP guides development within the campus boundaries and does not address development of off-campus areas. The proposed housing projects would involve the infill development of five sites on campus and, as described above, would occur in a fully developed urban area. Because the proposed housing projects are situated entirely within campus boundaries, they would not physically divide an established community. Consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be no impact and no mitigation would be required.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

No impacts related to division of an established community would occur.

Threshold 9.2	Would the proposed project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The analysis of Impact 4.8-2 in the March 2009 LRDP Amendment Final EIR concluded there would be less than significant impacts related to conflicts with applicable land use plans, policies, and regulations.

University of California, Los Angeles

Following is a discussion of the project's consistency with relevant components of the Existing LRDP.

LRDP Square Footage. UCLA proposes to develop on-campus student housing on five sites in various campus zones on campus. As shown in Table 3-1 in Section 3.0, Project Description, of this Draft SEIR, the proposed housing development would total approximately 1,715,000 gsf of new building space. Development of the proposed student housing projects would require demolition of the existing buildings at the Lot 15, Warren Hall, and UNEX sites, totaling approximately 215,000 gsf, resulting in a potential net increase of 1,500,000 gsf of housing on campus.

Because the proposed housing development was not contemplated in the Existing LRDP, and because it could not be accommodated by the remaining development allocation in the Existing LRDP (174,615 gsf) that has not yet allocated for specific development, an amendment to add 1,500,000 gsf is proposed. The allocation of this square footage by zone is summarized in Table 4.9-1 along with a breakdown of the remaining LRDP allocation; detailed information regarding the existing entitlement and proposed allocation by LRDP zone is presented in Table 3-8 in Section 3.0 of this Draft SEIR.

TABLE 4.9-1
LONG RANGE DEVELOPMENT PLAN
PROPOSED ALLOCATION BY ZONE

LRDP Zone	Remaining LRDP Allocation (gsf)	Proposed LRDP Amendment Allocation (2017)	Remaining LRDP Allocation with Proposed Amendment (2017)
Botanical Garden	0	0	0
Bridge	0	256,500	256,500
Campus Services	0	0	0
Central	54,615	240,000	294,615
Core	110,000	0	110,000
Health Sciences	0	0	0
Northwest	0	463,000	463,000
Southwest	10,000	540,500	550,500
Total	***174,615***	***1,500,000***	***1,674,615***

As described in Section 3.1, Background and Need for the Project, the additional development allocation associated with the proposed LRDP Amendment would address the unmet demand for on-campus housing and would be used solely for the proposed student housing projects addressed in this Draft SEIR. The proposed LRDP Amendment would retain the remaining 174,615 gsf of development allocation under the Existing LRDP with no change in assigned use.

LRDP Land Use Designations. The proposed Project involves development of student housing projects on campus. Residential land uses are anticipated by the Existing LRDP; therefore, development of the proposed housing projects would not introduce a new land use type on campus. The proposed student housing projects would be located in four campus zones: Northwest zone (Lot 15 and Bradley sites); Bridge zone (UNEX site); Southwest zone (Warren Hall site); and Central zone (Drake Stadium site) (refer to Figure 4.9-1). With the exception of the Central zone, the Existing LRDP anticipates residential development in each of these zones. The Central zone contains most of the campus recreational and athletic facilities and playing fields, as well as student activity centers and underground parking. The Central zone, and specifically the proposed Drake Stadium site, is immediately adjacent to the eastern boundary of the Northwest zone, which is the primary residential area of campus. As shown on Figure 4.9-1, there are existing residential uses adjacent to the proposed housing site. Further, the proposed housing structure at the Drake Stadium site would be developed in the area over and surrounding the existing concourse, and operations at Drake Stadium would continue. Therefore, the proposed housing project would seamlessly extend on-campus student housing from the eastern edge of the Northwest zone into the adjacent Central zone while maintaining existing recreational and athletic facilities. The introduction of residential uses in the Central zone would not conflict with any objectives outlined in the Existing LRDP, as further addressed in Table 4.9-2, below.

LRDP Population. As described in Section 4.11, Population and Housing, of this Draft SEIR (refer to Table 4.11-2), for purposes of analysis in this Draft SEIR, the campus 3-quarter weekday (regular session) population for fall 2025 is conservatively projected to be 76,390 individuals. It should be noted that the UCLA campus does not have a population cap, and one has never been initiated for the campus over its 98-year history. The proposed housing projects would generate approximately 145 new staff positions on campus consisting of maintenance, grounds, custodial, administrative, residential life, and dining positions. While there would be 145 new staff positions, it is important to note that many of these positions (notably dining and custodial) occur in shifts, and these individuals would not all be on campus at the same time. Regardless, the anticipated increase in staff is within the projected increase in staff by 2025 (projected increase of 1,723 staff positions between the current baseline condition [2014–2015] and 2025, and a projected increase of 786 staff positions between 2017 and 2025).

With respect to the student population, the proposed housing projects would accommodate current and projected unmet demand for on-campus student housing; the proposed housing projects would not increase the student enrollment at UCLA, which is the basis for determining the campus 3-quarter weekday (regular session) population.

Finally, as described in Section 3.6, Relocation of Existing Building Occupants and Uses, the current occupants of the Lot 15, Warren Hall, and UNEX sites would be relocated into existing University-owned or leased facilities.

LRDP Development Objectives. As identified in the Existing LRDP, future development on campus "will be guided by the institutional objectives that fall into three major categories: academic, physical and operational" (UCLA 2009b). The proposed Project's consistency with applicable LRDP academic, physical, and operational objectives is addressed in Table 4.9-2. As

identified, the proposed Project would be consistent with the relevant development objectives outlined in the Existing LRDP.

TABLE 4.9-2
LONG RANGE DEVELOPMENT PLAN OBJECTIVES
CONSISTENCY ANALYSIS

Relevant Objective	Consistency with Objective
Academic Objectives	
Build an academic community of faculty and students in keeping with an institution of UCLA's caliber.	**Consistent.** UCLA's excellent academic reputation continues to attract undergraduate students to the campus. Top high school graduates, especially students from under-represented minority backgrounds and non-residents, typically receive offers of admission from multiple highly selective institutions. To be competitive, UCLA must be able to offer these students an array of campus services, support, and resources designed to enhance the attractiveness of campus life at UCLA. For entering undergraduate students, on-campus housing helps ease the transition to university life by providing numerous benefits in addition to convenience and affordability. Thus, the availability of on-campus housing at UCLA is vital to recruiting highly desirable entering undergraduate students. With respect to graduate students, the need for additional housing for graduate students is closely linked to UCLA's position as a worldwide leader in graduate education and research. UCLA seeks to recruit and retain the very best graduate students worldwide, and the quality, affordability, and proximity of housing to campus is integral to successfully recruiting new graduate students in all academic disciplines and professions. This is especially true for graduate students from outside Southern California, where the availability of housing is beneficial to their adjustment to the Los Angeles metropolitan area and lifestyle. Therefore, the provision of additional student housing on campus helps UCLA meet this goal relative to building an academic community of students in the keeping with an institution of UCLA's caliber.
Create an intellectual milieu and shared ethic that fosters excellence and a sense of community on campus.	**Consistent.** One of the important benefits of University-owned housing on campus is the cohesive nature of the community formed by groups of students living in close proximity. With the provision of approximately 6,412 undergraduate beds, the proposed housing projects would result in an approximate 45 percent increase in the number of undergraduate students living in University-owned housing (on campus and within 1 mile). There would also be an approximate 14 percent increase in University-owned graduate student housing. This provides students with greater opportunities for collaboration in this residential environment.
Create an environment for student life that fosters students' academic, personal, and social development.	**Consistent.** Students who live in the residential communities on campus benefit from the resources offered to them through various on-campus housing programs, such as academic, social, and learning programs. This objective is met by providing additional opportunities for on-campus housing to undergraduate and graduate students in proximity to existing residential communities. It should be noted that graduate student housing is proposed only at the Warren Hall site, given its location adjacent to the existing graduate student housing facilities in the Southwest zone.

TABLE 4.9-2
LONG RANGE DEVELOPMENT PLAN OBJECTIVES
CONSISTENCY ANALYSIS

Relevant Objective	Consistency with Objective
Physical Objectives	
Maintain the 1990 Long Range Development Plan (LRDP) campus parking cap of 25,169 spaces.	**Consistent.** The proposed housing projects would not alter the parking cap of 25,169 parking spaces, which was established with the 1990 LRDP and maintained through the Existing LRDP. Currently, there are 22,738 parking spaces on campus (UCLA 2016a). Implementation of the proposed housing projects would result in a net reduction of 149 parking spaces (136 spaces at the Warren Hall site and 13 spaces at the UNEX site). The proposed housing projects would not provide student resident or staff parking, only limited parking at each site, as necessary to comply with Americans with Disabilities Act (ADA) requirements and to accommodate the drop-off, pick-up, and service needs at each location. Should student residents or staff need parking, parking would be available in the lots and structures on campus, subject to receipt of a permit and spaces available. Therefore, the proposed housing projects would not result in an exceedance of the existing parking cap.
Maintain the 1990 LRDP campus vehicle trip cap of 139,500 average daily trips.	**Consistent.** The proposed Project would not alter the trip cap of 139,500 average daily trips, which was established with the 1990 LRDP and maintained through the Existing LRDP. UCLA currently generates approximately 105,284 average daily trips (UCLA 2016a). As discussed in Section 4.13, Transportation and Traffic, of this Draft SEIR, by providing on-campus housing, the proposed housing projects would have a reduction of 77 daily trips (taking into consideration student residents and new employees at the proposed housing sites). This reduction in daily trips would be offset by new trips associated with deliveries and service/maintenance vehicles, which in some cases only occur weekly, twice weekly, or only in the summer. Conservatively assuming these potential trips would occur on the same day, there would be approximately 50 new daily trips. Therefore, there would be a net reduction of approximately 27 average daily trips with implementation of the proposed housing projects. The proposed Project would not result in an exceedance of the existing vehicle trip cap.
Develop a maximum of 1.87 million gross square feet (gsf) of additional building space, which represents the remaining approved 2002 LRDP, as amended in March 2009, development allocation.	**Consistent.** Refer to the discussion of "LRDP Square Footage" provided above.
Continue the infill development of the UCLA campus, which reduces vehicle miles traveled and energy consumption.	**Consistent.** This physical objective is incorporated into the proposed housing projects through PP 4.8-1(c). The proposed housing projects are infill developments located on currently developed sites or, in the case of the Bradley site, on a site completely surrounded by development. The development, or redevelopment of the sites would help UCLA provide up to 6,900 additional affordable beds on campus, which reduces vehicle miles traveled compared to conditions where students are required to live off campus.
Retain the human scale and rich landscape of the campus while enhancing its function as a mature university in a fully developed urban environment.	**Consistent.** As shown in the conceptual renderings presented in Section 4.1, Aesthetics, of this Draft SEIR, and aerial massing perspectives provided in Section 3.0, Project Description, of this Draft SEIR, the proposed buildings would be terraced and, where there is more than one building proposed, they would have varying heights. The use of terracing in the architecture breaks up the massing of larger structures to integrate a given volume of usable square footage

TABLE 4.9-2
LONG RANGE DEVELOPMENT PLAN OBJECTIVES
CONSISTENCY ANALYSIS

Relevant Objective	Consistency with Objective
	within a given footprint. The building architecture would also have a high level of articulation to break up the massing of the structures and maintain a human scale at ground level. Additionally, landscaping would be installed throughout the proposed housing sites consistent with the campus design guidelines, and existing mature and protected trees would be protected in place to the extent feasible or replaced (as further discussed in Section 4.3, Biological Resources, of this Draft SEIR).
Site and design facilities to enhance spatial development of the campus while maximizing use of limited land resources.	**Consistent.** This physical objective is incorporated into the proposed housing projects through PP 4.8-1(e). As shown on Figure 4.9-1, there are limited areas on campus that are undeveloped, which requires careful site design to maximize the available land resources. The proposed housing projects would involve the development or redevelopment of sites that are currently underutilized. The approximate 3.1-acre Lot 15 site is currently occupied with surface parking; a portable office structure; storage containers and areas; and a greenhouse and facilities used by the UCLA Housing and Facilities Management departments for storage of parts, material, and plants (Ornamental Horticultural Area buildings). The approximate 3.9-acre Warren Hall site is developed with surface parking; the 2-level (plus partial basement) Warren Hall building (102,205 gsf); and 1-level Hillblom Islet Research Center (7,200 gsf). The approximate 1.0 acre UNEX site is developed with surface parking, drive aisles, and the seismically deficient 93,204 gsf, 8-level UNEX building. The approximate 1.1-acre Bradley site consists of the undeveloped grassy knoll adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive, south of the Bradley International Hall. The approximate 1.3-acre Drake Stadium site encompasses the area between Charles E. Young Drive West and Drake Stadium, generally over the stadium concourse. As discussed under Threshold 9.4 in this Section, and in Section 4.1, Aesthetics, the proposed housing projects are compatible with existing surrounding development from a land use and aesthetic perspective.
Respect and reinforce the architectural and landscape traditions that give the campus its unique character.	**Consistent.** This physical objective is incorporated into the proposed housing projects through PP 4.1-2(b) (see Section 4.1, Aesthetics). As described in Section 3.0, Project Description, and Section 4.1, Aesthetics, the proposed housing developments would be implemented in accordance with the UCLA Physical Design Framework which, among other purposes, describes the physical design standards that guide new development to enhance the unique campus aesthetic within the constraints of a fully developed campus. Notably, the architecture of the proposed buildings would maintain continuity with UCLA campus architecture as appropriate to the context and materials of the existing built environment of each development site. The consistency of the proposed housing projects with the UCLA Physical Design Framework is further discussed below.

TABLE 4.9-2
LONG RANGE DEVELOPMENT PLAN OBJECTIVES
CONSISTENCY ANALYSIS

Relevant Objective	Consistency with Objective
Continue to integrate landscaped open space (including plazas, courts, gardens, walkways and recreational areas) with development, to encourage use through placement and design.	**Consistent.** As shown on the conceptual site plans provided in Section 3.0, Project Description, of this Draft SEIR, the proposed housing projects would incorporate various landscape areas and outdoor patios/courtyards to encourage use by residents and their guests. Additionally, pedestrian access to the buildings and the landscape courtyards would be provided from pedestrian paths internal to the proposed housing sites, a pedestrian bridge at the Lot 15 site, and from adjacent roadways and pedestrian facilities and/or existing uses.
Provide recreational facilities for students, faculty and staff on campus.	**Consistent.** While the proposed housing projects do not provide recreational facilities, it is important to note that the Lot 15 site and Drake Stadium site are adjacent to existing recreational and/or athletic facilities. Specifically, the Lot 15 site is adjacent to the Sycamore Tennis Courts, and the proposed housing project at the Drake Stadium site would be constructed over the Drake Stadium, adjacent to Drake Stadium and Marshall Field and west of the Intramural Field. The proposed housing project would not displace any recreational or athletic facilities. The track and field of Drake Stadium would remain in use during the building construction for both recreation and National Collegiate Athletic Association (NCAA) Athletic team uses. Spectator events would be facilitated with mobile bleachers that are currently used on the east side of the field. Development of the Drake Stadium site would also provide an opportunity to accommodate additional space for athletic programs associated with the stadium and nearby athletic facilities.
Provide a landscape buffer along the western, northern, and eastern edges of the main campus.	**Consistent.** This physical objective is incorporated into the proposed housing projects at the Lot 15, Bradley, and Drake Stadium sites through PP 4.1-2(d) (see Section 4.1, Aesthetics). As discussed in Section 4.1, Aesthetics, the proposed development at the Lot 15 and Drake Stadium sites would not involve the removal of vegetation and trees that form a buffer along Veteran Avenue to the west and Sunset Boulevard to the north. Additionally, some of the required tree replacement for the Lot 15 site would occur in the disturbed areas between the site and Veteran Avenue. The Bradley site would involve the removal of some trees along Gayley Avenue; however, any trees removed would be replaced to maintain the landscape buffer.
Design future development on the southern end of the main campus to enhance the campus interface with Westwood Village. Site new building projects to ensure compatibility with existing uses and the height and massing of adjacent facilities, to the extent feasible.	**Consistent.** This physical objective is incorporated into the proposed housing projects through PP 4.8-1(d). As further discussed in Section 4.1, Aesthetics, with the exception of the proposed high-rise building at the UNEX site, the proposed buildings at each of the housing sites are compatible with the height and massing of existing buildings in the vicinity. Each of the sites is located in a highly urbanized area, largely with residential development of various heights. The UNEX site is the only housing site located at the southern end of the main campus. Designed as one building, the visual massing of the proposed structure would be expressed in two integrated components (mid-rise and high-rise). The mid-rise building would be 9 levels, similar to the existing UNEX building. The proposed 20-level high-rise building at the UNEX site would be taller than other buildings in the area; however, it would be visually consistent with the urban aesthetic character of the area. Additionally, as previously noted, the building architecture includes staggered building masses and facades, which would also have a high level of articulation to break up the massing of the structures and maintain a human scale at ground level. The visual

TABLE 4.9-2
LONG RANGE DEVELOPMENT PLAN OBJECTIVES
CONSISTENCY ANALYSIS

Relevant Objective	Consistency with Objective
	prominence of the proposed development at this site would be consistent with existing conditions where the existing UNEX building is a focal point in the viewshed from nearby vantage points. It should also be noted that landscaping would be installed along the site perimeter to enhance the visual character at street level.
Provide accessibility for the disabled in the siting and design of new buildings or the renovation, restoration, or reconstruction of existing buildings.	**Consistent.** The proposed housing projects would meet the Americans with Disabilities Act (ADA) requirements for building design and access.
Clarify and strengthen existing pedestrian and vehicular circulation to enhance way-finding and promote safety.	**Consistent.** With the exception of the Bradley site, which currently does not have vehicular access, the proposed housing sites are served by existing adjacent roadways, which would also serve the proposed housing projects. Vehicular access would be provided to the Lot 15, Warren Hall, UNEX and Bradley sites, as necessary for deliveries, service vehicles and ADA access, and other access uses (refer to the conceptual site plans presented in Section 3.0, Project Description, of this Draft SEIR). Although existing roadways would be used to provide access to these, signage and lighting would be provided to facilitate wayfinding. The Drake Stadium site would not have direct vehicular access, but it is bordered by Charles E. Young Drive North and Charles E. Young Drive West. With respect to pedestrian access, each of the housing sites would have direct pedestrian connections to existing pedestrian facilities, including sidewalks along adjacent roadways, as applicable. The proposed housing project at the Lot 15 site would also include the construction of a pedestrian bridge connection to the street level on De Neve Drive (refer to the conceptual site plan provided in Figure 3-8).
Develop on-campus housing to enhance the educational experience for students and continue the evolution of UCLA from a commuter to a residential campus.	**Consistent.** The proposed LRDP Amendment (2017) is intended to allocate additional development square footage on campus to accommodate up to 6,900 new beds. With the provision of up to 6,412 undergraduate beds, the proposed housing projects would result in an approximate 45 percent increase in the number of undergraduate students living in University-owned housing (on campus and within 1 mile). With the provision of up to 488 graduate beds, there would also be an approximate 14 percent increase in University-owned graduate student housing.
Operational Objectives	
To the extent practicable, continue to incorporate design features, technological adaptations, and/or planning principles into future campus development to encourage or reinforce the concept of environmental sustainability and stewardship, including the conservation of resources, and the minimization of waste.	**Consistent.** As outlined in Section 3.0, Project Description, of this Draft SEIR, the proposed housing projects would achieve a minimum standard of a Leadership in Energy and Environmental Design (LEED) "Silver" New Construction (NC) rating, which has been established for applicable UCLA projects, including the proposed housing projects. However, the proposed housing developments would be designed in an attempt to surpass this. The proposed housing developments would also comply with California Green Building Standards Code (CALGreen) Tier 2 voluntary measure requirements and would participate in the Savings by Design building performance incentive program administered by public energy utility under the auspices of the California Public Utilities Commission. The design, construction, and operation of the proposed housing projects would include a series of green building strategies under development, along with mandatory strategies required by CalGreen and UC Policy on Sustainable Practices, to exceed California Building

TABLE 4.9-2
LONG RANGE DEVELOPMENT PLAN OBJECTIVES
CONSISTENCY ANALYSIS

Relevant Objective	Consistency with Objective
	Code Title 24 energy efficiency requirements by 20 percent or greater and would comply with applicable UC Policy goals, as further discussed in Section 4.6, Greenhouse Gas Emissions, of this Draft SEIR. Additionally, consistent with the UC Sustainable Practices Policy, the UCLA campus would achieve a 100 percent waste diversion for construction and operation of projects by 2025. UCLA currently diverts an average waste diversion of approximately 70 percent, but consistently exceeds the required 75 percent of construction and demolition diversion, as outlined in the UC Policy on Sustainable Practices (UCOP 2016).
Promote the efficient use of water through the use of natural drainage patterns, drought tolerant landscaping and recycling and reuse.	**Consistent.** Consistent with the UC Sustainable Practices Policy, the proposed housing projects would include water conservation features. With implementation of the proposed housing projects, the overall amount of pervious area on campus would decrease and there would be a net increase in the amount of storm water generated. However, storm water runoff would be managed in accordance with applicable regulations as further discussed in Section 4.8, Hydrology and Water Quality, of this Draft SEIR. At the Lot 15 and Warren hall sites, roof runoff would be collected and sent to capture-and-reuse rainwater cisterns. A pretreatment hydrodynamic separator manhole is required upstream of each cistern. The cisterns would connect via mechanical pump skid units to the drip irrigation system. Storm water runoff from the UNEX site would either be collected via catch basins and directed to planter boxes, or would be captured and reused for irrigation on site (similar to the Lot 15 and Warren Hall sites). The storm water management systems for the Bradley and Drake Stadium sites have not been determined, but Best Management Practices (BMPs) would be implemented on site in compliance with Low Impact Development (LID) standards for post-construction design to manage both quantity and quality of storm water runoff. It is anticipated that the storm water management systems would be similar to those that would be implemented at the other housing sites. Also consistent with the UC Sustainable Practices Policy, potable water use would be reduced by using storm water for irrigation, implementing efficient irrigation systems, using drought-tolerant landscaping and/or by removing turf, such as at the Bradley site. The proposed building would be designed to encourage recycling by residents by providing trash bins for trash, recycling, and organics in the trash room and providing trash chutes for trash and recycling. Additionally, as discussed above, the UCLA campus would continue to exceed the 75 percent construction and demolition diversion requirement through 2020, and will achieve a 100 percent waste diversion for construction and operation of projects by 2025.
Encourage energy efficiency through thoughtful design that considers the effective placement of buildings and the use of shading, to the extent feasible.	**Consistent.** The proposed buildings have been sited and designed to minimize solar gain and to increase natural day lighting and reduce the hours of artificial lighting. Internal and external lighting strategies would be designed to reduce energy use.

TABLE 4.9-2
LONG RANGE DEVELOPMENT PLAN OBJECTIVES
CONSISTENCY ANALYSIS

Relevant Objective	Consistency with Objective
Provide and promote opportunities for the use of alternative transportation modes.	**Consistent.** As discussed previously and further discussed in Section 4.13, Transportation and Traffic, of this Draft SEIR, the proposed housing projects would reduce the number of commuter students driving to and from the campus and would contribute to a net reduction in average vehicle trips to and from the campus. The proposed housing sites are on the UCLA campus, and student residents would have access to a full range of existing campus Transportation Demand Management (TDM) programs, including, but not limited to campus transit; accommodations for the use of other modes of transportation, including walking, bicycles, motorcycles, and scooters; the on-campus car share program; and use of UCLA's Commuter's Guide. Each of the proposed housing sites is located in a high quality transit area (HQTA), and the Warren Hall, UNEX, and Bradley sites are also located in an existing Transit Priority Area, which is an area within 0.5-mile of a major transit stop. Proximity to transit encourages use of alternative modes of transportation. Further, the proposed housing project would decrease the amount of parking on campus (a reduction of approximately 149 spaces); reducing parking also promotes the use of alternative transportation modes. Pedestrian/bicycle pathways at each of the proposed housing sites would create linkages that would draw people among residential buildings, community spaces, and the rest of campus while enhancing the indoor/outdoor relationships among the proposed and existing residences. The conceptual site plans for each site illustrate the proposed pedestrian/bicycle circulation systems. Bicycle parking areas would also be provided at each site. At the Warren Hall site, the bus turnout/bus pullout on the north side of Weyburn Avenue at the intersection with Weyburn Terrace would be widened so that the buses, when stopped, do not obstruct the drive lanes. To facilitate the uses of the transit services, the paved waiting area would be enlarged by regrading the existing slope in the southern portion of the site. Seating and shade would be provided at this bus stop.
Plan, design, and implement the proposed Project within the practical constraints of available funding sources.	**Consistent.** The proposed housing projects, including site improvements, would be funded by external financing and UCLA Campus Housing Reserves. Repayment of the debt would be from student rents generated by the proposed housing projects and excess net revenue from existing campus housing bed spaces.

Physical Design Framework

Following is a list of the Physical Design Standards included in the Physical Design Framework, and an explanation as to how the proposed housing projects are consistent with the standards.

- **Sustainability and Green Buildings.** As outlined in Section 3.0, Project Description, of this Draft SEIR, and discussed above, the proposed housing projects would achieve a minimum standard of a Leadership in Energy and Environmental Design (LEED) "Silver" New Construction (NC) rating, and would be designed in an attempt to surpass this. The proposed housing developments would also comply with California Green Building

Standards (CALGreen) Code Tier 2 voluntary measure requirements and would participate in the Savings by Design building performance incentive program administered by a public energy utility under the auspices of the California Public Utilities Commission. The design, construction, and operation of the proposed housing projects would include a series of green building strategies under development, along with mandatory strategies required by CalGreen and UC Policy on Sustainable Practices, to exceed California Building Code Title 24 energy efficiency requirements by 20 percent or greater and would comply with applicable UC Policy goals, as further discussed in Section 4.6, Greenhouse Gas Emissions, of this Draft SEIR. Additionally, consistent with the UC Sustainable Practices Policy, the UCLA campus would achieve a 100 percent waste diversion for construction and operation of projects by 2020. UCLA's current average waste diversion is approximately 70 percent and consistently exceeds the required 75 percent diversion of construction and demolition waste, as outlined in the UC Policy on Sustainable Practices.

- **Building Materials and Architectural Implementation.** The primary materials of new construction on campus typically include UCLA blend brick and buff stone, terracotta, or concrete; the most basic element of the materials used on campus is brick. As described in Section 3.0, Project Description, and further discussed in Section 4.1, Aesthetics, of this Draft SEIR, the exterior of the proposed housing projects would be designed to integrate with the existing building materials, architecture, building massing, and color, among other features of other buildings on campus and in the vicinity of each project site. Notably, the building materials, exterior finishes, and colors used for the proposed buildings at the Lot 15 site would relate to the existing student housing structures to the east (e.g., Hedrick, Rieber). The proposed buildings at the Warren Hall site would be designed in the Southern California Mission Revival style, consistent with the architecture, materials, finishes, and colors used in the surrounding Weyburn Terrace graduate student housing structures. The UNEX site is located at the intersection of Gayley, Le Conte, and Levering Avenues in the Bridge zone of the UCLA campus. This site is in a transitional zone between the residential neighborhood to the northwest, the main campus to the northeast, and Westwood Village and Wilshire Boulevard to the south. The design of the proposed buildings at this site would take its cues from all of these influencing neighborhoods and the campus as a whole. The proposed housing projects would maintain important color and textural continuity with UCLA campus architecture and its base iconography. Glass features with light, low-reflection tinting would be used to minimize the glare effect. The proposed housing projects would not incorporate bright colors.
- **Pedestrian Circulation and Campus Hardscape.** The proposed housing projects would maintain and enhance the existing pedestrian movement in and around each project site. This includes Bruin Walk and the pedestrian pathway along Charles E. Young Drive North, which are key pedestrian pathways on campus, and are south and north of the Drake Stadium site, respectively. Pedestrian pathways would create linkages that would draw people among residential buildings, community spaces, and the rest of campus while enhancing the indoor/outdoor relationships among the proposed and existing residences. The hardscape design throughout the proposed housing sites would be composed of brick and buff concrete consistent with the campus standard for new paving.
- **Open Space and Landscape.** While the landscape designs for the proposed housing sites remain in a conceptual phase, as shown on the conceptual site plans provided in Section 3.0, Project Description, of this Draft SEIR, the proposed housing projects would incorporate various landscape areas and outdoor patios/courtyards to encourage use by residents and their guests. The landscape plans to be developed during the schematic

design phase would incorporate the required tree replacement and the installation of shrubs and ground cover around all the proposed new buildings and adjacent areas.

As discussed in Section 4.3, Biological Resources, the proposed housing projects would potentially result in the removal of up to approximately 200 trees, including 170 non-native mature trees and 30 protected trees, 14 of which also qualify as mature trees. The trees would be replaced, as required by UCLA policies, either within the respective project sites and/or elsewhere within the campus boundaries where feasible. If it is not feasible to plant replacement trees for mature trees that are removed at a 1:1 ratio within the campus boundaries, the Tree Replacement Plan that MM 4.3-1(c) requires would include the planting of native shrubs in ecologically appropriate areas within the campus boundaries that would provide nesting, foraging, or roosting habitat for birds so that the replacement number of trees and shrubs would result in a 1:1 replacement ratio.

The proposed development at the Lot 15 and Drake Stadium sites would not involve the removal of vegetation and trees that form the required landscaped buffer along Veteran Avenue to the west and Sunset Boulevard to the north. Additionally, some of the required tree replacement for the Lot 15 site would occur in the disturbed areas between the site and Veteran Avenue. Proposed development at the Bradley site would involve the removal of some trees along Gayley Avenue; however, any trees removed would be replaced to maintain the landscape buffer.

- **Campus Furniture and Signage.** Project signage, furniture, and other accessories would be implemented in compliance with the campus guidelines and standards.
- **Site Character and Context.** The proposed housing projects have been situated, and designed to integrate with existing development in the vicinity of each site and consistent with the established campus context. The Lot 15 and Bradley sites are within the Northwest zone and would be consistent in character to the existing development, including residential development, in this zone. The UCLA blend brick would be used in the pedestrian-accessible areas including the base of buildings. Additionally, as discussed above, the western campus edges along Veteran Avenue and Gayley Avenue adjacent to these sites would be maintained and potentially enhanced.

  The Drake Stadium site is in the Central zone, which is part of the original master plan area of the campus. As identified in the Physical Design Framework, the proposed new housing development would respect and reinforce the original formal planning concepts and strongly adhere to the campus materials palette. An identified major organizing axis extends in an east-west direction from just west of the Drake Stadium site, through the site, and to the eastern campus boundary. As discussed in Section 4.1, Aesthetics, of this Draft SEIR, there are views of the Drake Stadium site from designated open space preserves to the east (e.g., Janss Steps and Dickson Plaza); this viewshed follows the major axis. As depicted in the conceptual rendering provided in Figure 4.1-12a, the proposed structure at the Drake Stadium site has been designed to allow views along this access to the west of the site. Additionally, as discussed above, the northern campus edge along Sunset Boulevard, north of this site, would be maintained.

  The Warren Hall site is located in the Southwest zone adjacent to the existing Weyburn Terrace graduate student housing buildings; the proposed architecture and building materials at this site would be consistent with the existing graduate student housing buildings.

  While there is not specific guidance for the character and context of future development in the Bridge zone, where the UNEX site is located, the proposed buildings at this site would adhere to the campus-wide materials palette.

- **Integrated Larger Scale and Imagery.** The proposed housing projects continue this trend. The proposed housing projects are located in the western half of campus, but are widely spread from nearly the northwest corner to the southernmost portion of campus. The proposed buildings vary in height from 7 to 20 levels, and have been designed with consideration of the surrounding land uses, height and massing, and architecture. With the exception of the Drake Stadium site, the proposed housing sites are situated near a campus boundary. As further discussed in Section 4.1, Aesthetics, of this Draft SEIR, due to topography, intervening development and mature trees and vegetation, the new buildings would not be visible from some distant vantage points. The proposed buildings would be within the height range of buildings near the sites or in the vicinity. Notably, even though the proposed building at the UNEX site would be 20 levels, this is not out of character with other buildings in Westwood Village and along the Wilshire corridor. While the proposed housing projects would represent a visible change at the project sites, there would not be an adverse change to the existing character of the campus and surrounding areas. This, in addition to the fact that the proposed building materials and architecture are consistent with existing development, ensures the proposed housing projects would not alter the integrated image of the campus.

Student Housing Master Plan 2016–2026

A fundamental tenet underlying the housing objectives for the campus has continued to be transforming UCLA from a commuter campus to a residential campus. Notably, the on-campus supply of undergraduate beds has increased from approximately 4,300 to 12,800 in the approximate 30 years since UCLA drafted its first SHMP (UCLA 2017). As identified in Section 3.1, Background and Need for the Project, of this Draft SEIR, the current demand for housing exceeds existing supply. Even with the additional beds from new developments, redevelopments, conversion of faculty buildings, and renovations, UCLA Housing is meeting current guarantees for undergraduate and transfer students by maintaining higher than desired triple-occupancy percentages (putting three students in rooms designed for two students). Without additional beds, the projected enrollment increases for FY 2017 through FY 2020 will result in triple occupancy that will exceed 75 percent. With respect to graduate and professional student housing, the campus is able to provide housing to approximately 24 percent of graduate and professional students. In addition, the campus is able to provide academic departments with a limited number of bed spaces to allocate to graduate students, but does not have sufficient inventory to guarantee housing to all graduate students.

To address the current and projected future unmet demand for housing, the proposed Project includes the potential development of up to 6,900 beds by adding 1,500,000 gsf of development allocation to the LRDP, at 5 on-campus sites, as previously identified. From this potential capacity, UCLA would pursue development on three of the five sites (the Lot 15, Warren Hall, and UNEX sites) that could be available as soon as the fall of 2021 to partially accommodate the increased enrollment; to increase the housing guarantee for entering first-year students from 3 to 4 years; to increase the guarantee for transfer students from 1 year to 2 years; to reduce the triple occupancy percentage closer to the 60–70 percent target identified in the SHMP 2016–2026*;* and to meet existing unmet graduate housing demand.

The proposed Project is consistent with and implements the SHMP 2016–2026.

Stipulated Agreement of Compromise and Order with the Westwood Hills Property Owners' Association

As previously discussed, this Order defines an area in the campus Northwest zone that will be reserved for "benign uses". As shown on Figure 4.9-1, the Lot 15 site, located between the Hitch and Saxon Residential Suites, is the only proposed housing site within the identified benign use zone. The Order, which was executed in February 1978, requires the use restriction to remain in effect ". . . unless and until there has been a substantial change of circumstances within the University as to warrant a modification of the use of that portion of the UCLA campus" (WHPOA et al. 1978). The Order further states that "Any such determination shall include consideration of conditions within the surrounding community, and such determination would be considered by the Regents only after there has been consultation with the community, including provisions for personal appearance by a community representative before the Board of Regents or its committees " (WHPOA et al. 1978).

The proposed LRDP Amendment and associated housing project at the Lot 15 site, would not terminate the Order; rather, UCLA is proposing a modification to the Order to exclude the Lot 15 site from the land use restrictions that reserve the benign use zone for only benign uses. This exclusion is similar to that included in the Order for the Hitch and Saxon Residential Suites. While UCLA is not requesting termination of the Order, following is a discussion of the change of circumstances that warrant consideration of a modification to the Order at this time.

Since the Order was executed in 1978, almost 40 years ago, UCLA has proceeded with development on campus consistent the LRDP and associated development objectives in effect at the time. The development objectives identified above in Table 4.9-2 were established with the 2002 LRDP, and include an objective that UCLA "Site and design facilities to enhance spatial development of the campus while maximizing use of limited land resources" (UCLA 2009b). When the Order was executed in 1978, there was approximately 10.39 million gsf of development on campus, or under construction. UCLA currently has approximately 18.67 million gsf of space that is either occupied, is currently under construction, or is approved. Therefore, since the Order was executed, UCLA has developed or approved approximately 8.3 million gsf of new buildings, and has accomplished this with limited encroachment into the benign use zone. The only exceptions to this are the expansion of the Krieger Child Care Center and the development Southern Regional Library Facility, which were evaluated in project-specific environmental documents.

With this ongoing development, the availability of developable, on-campus parcels has narrowed as new and/or redeveloped facilities have been constructed to meet UCLA's teaching, research, and public service mission; to accommodate increased enrollment levels; and to maintain the campus' position as a top tier higher education institution.

As identified above, the LRDP includes eight land use zones and identifies the general types of land uses to be developed in those zones. On-campus student housing (residential development) is identified for development in the Northwest, Southwest, and Bridge zones. The Northwest zone is the primary zone for residential uses on campus and is limited to undergraduate housing. The Southwest zone is currently limited to graduate student housing. The Bridge zone includes the Margan Apartments building for undergraduate students, which is currently being re-developed, and the faculty apartments north of the Margan Apartments.

While the 1990 LRDP included provision for 2,000 beds for graduate student housing (a portion of which has been completed in the Southwest zone), a significant component of the 2002 LRDP update was to provide 2,000 beds of undergraduate student housing. This level of undergraduate housing was achieved in 2005 with the completion of the Hedrick Summit, Rieber Summit, and Rieber Vista undergraduate housing projects, which The Regents approved in February 2003. Due to continuing unmet demand for on-campus undergraduate student housing, UCLA pursued an amendment to the 2002 LRDP to construct an additional 1,525 beds of undergraduate student housing (4 buildings totaling approximately 550,000 gsf) on 3 infill sites in the Northwest zone. The LRDP Amendment and associated Northwest Campus Student Housing Infill Project (2008 NHIP) were approved by The Regents in March 2009 and the 2008 NHIP was completed in 2013.

It is important to note that, in light of the land use restrictions identified in the Order, the University did not pursue development of residential housing in the benign use zone after development of the Hitch and Saxon Residential Suites. For instance, because the Northwest zone (the only zone on campus designated for lower-division undergraduate residence halls) did not offer a single, large site that could accommodate 1,525 bed spaces and the related support facilities, the 2008 NHIP involved an infill development strategy for the needed residential, support, and recreational facilities. The new housing was accommodated in four new buildings at three locations (adjacent to Sproul Hall, east of Rieber Hall, and west of De Neve Plaza).

As further described in Section 5.0, Alternatives, when UCLA initiated consideration of potential sites for the currently proposed housing projects, the options were limited. Potential sites had to (1) have the ability to develop the needed program and unit types (residence halls for lower division undergraduate students, apartments for upper division undergraduates, and apartments for graduate students); (2) be located in proximity to existing undergraduate and graduate student housing facilities to bridge amenities such as dining, parking (graduate students only), recreation, and others; and (3) sites that have existing uses that could be relocated on or adjacent to campus. With respect to the Northwest zone, undeveloped or infill sites have already been developed for housing, and there are limited locations left that can accommodate the proposed housing projects. UCLA has identified two sites in the Northwest zone that can accommodate undergraduate residence halls: the Lot 15 site and the Bradley site.

Therefore, due to the lack of remaining development options in the Northwest zone, UCLA is proposing an amendment to the Order to exclude the Lot 15 site from the identified land use restrictions. In addition to the reasons identified above, the Lot 15 site has been selected because it is a developed/disturbed site that is underutilized. The existing uses are such that they can be incorporated into the proposed housing project at the Lot 15 site, or be relocated without developing new space or facilities.

As previously identified, UCLA previously complied with provisions in the 1978 Order related to investigating the feasibility of reducing noise levels in Hedrick and Rieber Halls; providing a peripheral landscape buffer strip along Veteran Avenue; preparing an updated LRDP and required environmental documentation; examining noise from construction of the Hitch and Saxon Residential Suites and reducing noise to the highest degree possible; and addressing community relations procedures. These provisions are not applicable to the currently proposed housing project.

The provisions of the Order that are applicable to the proposed housing project at the Lot 15 site are related to (1) the determination that there has been a substantial change of circumstances within the University as to warrant a modification of the Lot 15 site in the benign use zone; (2) consideration of conditions within the surrounding community; and (3) consultation with the community, including provisions for personal appearance by a community representative before the Board of Regents or its committees. The "changes in circumstances" are identified above and primarily relate to the lack of remaining development options in the Northwest zone, or in other campus zones identified for student housing, to accommodate the future unmet need for student housing. Further, University of California (UC) system-wide enrollment increases were approved by the UC President and The Regents in November 2015. UCLA began enrolling 750 more undergraduate students in fall 2016 as part of the University's commitment to enroll more California residents through fall 2020. In fall 2017 and 2018, an additional 375 undergraduate students will be enrolled, per year, for a total increase of 1,500 undergraduate students. This increase in enrollment presents challenges when coupled with the increasing demand for campus housing.

The consideration of conditions within the surrounding community have been addressed through the analyses presented in this Draft SEIR. Notably, potential aesthetic impacts (including lighting) and maintaining the landscaped buffer along Veteran Avenue are addressed in Section 4.1, Aesthetics, and potential noise impacts are addressed in Section 4.10, Noise. With regard to consultation with the community the campus has had five meetings with the WHPOA regarding the proposed development of Lot 15 and will have formal meetings with WHPOA Leadership to discuss the proposed modification to the Order.

Accordingly, for the reasons explained above, the proposed housing project at the Lot 15 site, and the modification to the Order to accommodate that project, would not conflict with the Order.

Urban Wildlands Group Hillside Use Agreement

The only proposed housing site in the vicinity of the hillside area is the Lot 15 site. As shown in Figure 4.9-2, the northwestern portion of potential disturbance area during construction for the Lot 15 site encroaches the southernmost portion of the area immediately adjacent to the identified hillside area; this encroachment would occur temporarily during construction. The proposed housing project at the Lot 15 site does not involve a permanent structure or other land use change within the hillside area; there would be no encroachment into the hillside area during construction or operation.

Section 4.3, Biological Resources, of this Draft SEIR addresses potential impacts to biological resources. With respect to the Lot 15 site, the hillside area and the immediately adjacent area, the analysis included vegetation surveying and mapping, a tree survey, and focused surveys for coastal California gnatcatcher in the area adjacent to and north of the Lot 15 site. As discussed further in Section 4.3, the area covered by the current vegetation mapping provides a limited amount of marginally suitable coastal sage scrub habitat for the coastal California gnatcatcher. No coastal California gnatcatchers were observed during focused protocol surveys conducted in spring 2017 (Psomas 2017, see Appendix D). This conclusion is consistent with results of a previous protocol survey conducted in 2009 (BonTerra Consulting 2009). The biological resources analysis concludes there are no sensitive natural communities at the Lot 15 site or construction impact area; therefore, the provisions of the Hillside Agreement relative to impacts to sensitive natural communities are not applicable to the proposed Project.

Although the proposed housing project at the Lot 15 site would not substantially change the existing uses of the hillside area or immediately adjacent area, and there are no sensitive natural communities, in compliance with CEQA, the potential direct and indirect impacts to biological resources resulting from implementation of the proposed housing project at the Lot 15 site have been addressed in Section 4.3, Biological Resources, of this Draft SEIR. As identified, direct impacts to existing vegetation and indirect impacts (e.g., noise and light) would be less than significant. However, the proposed housing project at the Lot 15 site would involve the removal of existing mature and protected trees. The impacts to trees would be less than significant with incorporation of PPs and MMs from the March 2009 LRDP Amendment Final EIR, which address tree replacement and protection (refer to MM 4.3-1[c], MM 4.3-4, and PP 4.3-1[a] through PP 4.3-1[e]). Specifically, MM 4.3-1(c) incorporates provision for 1:1 tree replacement or planting of native shrubs, if necessary, consistent with provisions of the Hillside Agreement.

Local Planning Programs

As previously noted, as a constitutional entity, the UC is not subject to municipal regulations, such as the *City of Los Angeles General Plan,* the *Westwood Community Plan,* the *North Westwood Village Specific Plan*, or the *Westwood Village Specific Plan*. UCLA is currently designated as "Public Facilities" in the Westwood Community Plan's General Plan Land Use Map (City of Los Angeles 2010), the Generalized General Plan Land Use Map for Westwood (City of Los Angeles 2014a), and the Generalized Zoning Map for the City of Los Angeles (City of Los Angeles 2014b). The proposed housing projects are located on campus and would be owned and operated by UCLA. Although UCLA is not subject to local regulations, the proposed housing projects, which would provide on student housing, are consistent with the Public Facility land use designation for the campus.

Regional Programs

As previously discussed, due to the size of the proposed Project (net increase of 1.5 million gsf of new development and addition of up to 6,900 beds on campus), it would be considered regionally significant. It is important to note that typically regional projects have the potential to cause significant effects on the environment extending beyond the city or county in which the project is located. While this is not the case for the proposed housing projects, the proposed Project's consistency with the nine goals of SCAG's 2016–2040 RTP/SCS is addressed in Table 4.9-3; the proposed Project would be consistent with the 2016–2040 RTP/SCS.

TABLE 4.9-3
SCAG 2016–2040 RTP/SCS CONSISTENCY ANALYSIS

RTP/SCS Goal	Consistency with Goal
G1: Align the plan investments and policies with improving regional economic development and competitiveness.	**Not Applicable:** This goal is under the jurisdiction of SCAG to directly implement, as SCAG is responsible for defining plan investments and policies. However, the proposed housing projects contribute to the effectiveness and competitiveness of UCLA's stature as a top tier university, which contributes to the local and regional economy.
G2: Maximize mobility and accessibility for all people and goods in the region. **G3:** Ensure travel safety and reliability for all people and goods in the region.	**Consistent.** The proposed on-campus student housing projects, which would result in an overall reduction in average daily traffic, would not involve or require roadway improvements. The on-site vehicular and non-vehicular facilities would provide convenient, safe, and efficient access/connections to existing roadways, pedestrian pathways, bikeways, and transit facilities adjacent to or in proximity to the sites.
G4: Preserve and ensure a sustainable regional transportation system. **G5:** Maximize the productivity of our transportation system.	**Consistent.** Since 1984, the UCLA campus has successfully implemented a comprehensive transportation demand management (TDM) program that offers a broad range of services to encourage and assist UCLA commuters in utilizing alternatives to the single-occupancy vehicle. As shown on Figure 4.9-3, each of the proposed housing sites is located in a High Quality Transit Area, and the Warren Hall, UNEX and Bradley sites are also located in Transit Priority Areas indicating that the sites would be served by existing transportation systems, including transit. The central location of the campus and the location of the proposed housing sites encourages transit use. As further discussed in Section 4.13, Transportation and Traffic, of this Draft SEIR, viable transit opportunities include public bus services provided by several outside operators and campus-operated shuttle bus services. These services not only offer an alternative means by which to commute to the campus, but also help to reduce the need for a car once at UCLA through the ability to utilize shuttles to get around the campus, travel into Westwood Village, or travel to other off-campus locations. By promoting reduced vehicle use and increasing the use of transit and other non-vehicular modes of transportation, increased transit fare revenues and lower transportation costs would be realized. These benefits would contribute to a more sustainable and productive regional transportation system.
G6: Protect the environment and health for our residents by improving air quality and encouraging active transportation (e.g. bicycling and walking).	**Consistent:** The CEQA process ensures that plans at all levels of government consider environmental impacts. Various sections of this Draft SEIR appropriately address the potential environmental impacts related to development of the proposed housing project and outline March 2009 LRDP Amendment Final EIR PPs and MMs, and project-specific MMs that would reduce environmental impacts, as applicable and feasible. Project implementation would also strive to maximize the protection of the environment and the improvement of air quality by encouraging active transportation. The proposed housing projects would maintain and enhance the existing pedestrian and bicycle movement in and around each of the housing sites, and bicycle storage facilities would be provided at each site. Pedestrian/bicycle pathways would create linkages from the sites to adjacent uses and other uses on and off campus. Additionally, the provision of additional on-campus student housing would provide students with easy access to dining services, recreational and academic uses, and social resources. This would promote walking and biking as alternatives to automobile use.

TABLE 4.9-3
SCAG 2016–2040 RTP/SCS CONSISTENCY ANALYSIS

RTP/SCS Goal	Consistency with Goal
	Further, as previously discussed, implementation of the proposed housing projects at the Lot 15, Warren Hall, and UNEX sites would result in the removal of approximately 149 parking spaces, and limited, if any, parking would be provided at the housing sites (to be compliant with the Americans with Disabilities Act [ADA], for service and delivery vehicles, and for pick-up/drop-off). The reduction in parking encourages use of non-vehicular modes of transportation. Additionally, there would be an overall reduction of approximately 27 average daily trips. While this may not represent a substantial reduction in vehicular trips, it is important to consider that the accommodation of 6,900 beds off campus would certainly involve an increase in vehicular trips and associated vehicle-related impacts (such as air quality emissions).
G7: Actively encourage and create incentives for energy efficiency, where possible.	**Consistent:** Consistent with the UC Sustainable Practices Policy and as outlined in Section 3.5.4, Sustainable Design Features, of this Draft SEIR, a minimum standard of a Leadership in Energy and Environmental Design (LEED) "Silver" New Construction (NC) rating has been established for applicable UCLA projects, including the proposed Project. However, the proposed housing developments would be designed in an attempt to surpass this. The proposed housing developments would also comply with California Green Building Standards (CALGreen) Code's Tier 2 voluntary measure requirements and would participate in the Savings by Design building performance incentive program administered by a public energy utility under the auspices of the California Public Utilities Commission. The design, construction, and operation of the proposed housing developments would include a series of green building strategies under development, along with mandatory strategies required by the CalGreen Code and the UC Sustainable Practices Policy, to exceed California Building Code Title 24 energy efficiency requirements by 20 percent or greater and would comply with applicable UC Policy goals, as further discussed in Section 4.6, Greenhouse Gas Emissions, of this Draft SEIR.
G8: Encourage land use and growth patterns that facilitate transit and active transportation.	**Consistent:** The proposed Project involves infill development/redevelopment in High Quality Transit Areas and Transit Priority Areas that supports non-vehicular modes of transportation, including transit, walking, and bicycling. Refer also to the discussion of goals G2 through G6 above.
G9: Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	**Not Applicable:** The proposed Project does not involve the construction or expansion of the transportation system. Therefore, security associated with regional transportation systems is not applicable to the proposed Project. The potential impact of the proposed Project to public services, including police and fire protection, is discussed in Section 4.12, Public Services and Recreation, of this Draft SEIR.
Source (goals): SCAG 2016a.	

In summary, there would be a less than significant impact related to conflicts with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed Project adopted for the purpose of avoiding or mitigating an environmental effect.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

Less than significant impact related to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed Project.

Threshold 9.3	Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

The UCLA campus is not located in an area governed by a habitat conservation plan (HCP) or natural community conservation plan (NCCP). Therefore, implementation of the proposed housing projects would not conflict with such plans. Consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be no impact resulting from implementation of the proposed Project.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance

The proposed Project would result in no impact to any applicable HCP or NCCP.

Threshold 9.4	Would the project result in land use incompatibilities between campus development and adjacent community land uses?

The analysis of Impact 4.8-1 in Section 4.8, Land Use and Planning, of the March 2009 LRDP Amendment Final EIR concluded there would be less than significant impacts related to land use incompatibilities with implementation of PP 4.1-1(a) as well as PPs 4.8-1(a) through 4.8-1(e).

The proposed Project involves the development of on-campus undergraduate and graduate student housing on five sites in various campus zones: the Lot 15 site and Bradley site in the Northwest zone, the Warren Hall site in the Southwest zone, the UNEX site in the Bridge zone, and the Drake Stadium site in the Central zone. The proposed housing development would total approximately 1,715,000 gsf of new building space and would accommodate up to 6,900 beds. Development of the proposed student housing projects would require demolition of the existing buildings at the Lot 15, Warren Hall, and UNEX sites, totaling approximately 215,000 gsf, resulting in a potential net increase of 1,500,000 gsf of housing on campus. Existing parking at the Warren Hall and UNEX sites would be removed, and limited parking would be provided for the housing projects (as necessary to meet Americans with Disabilities Act [ADA] requirements and for service/delivery vehicles and drop-off/pick-up). As discussed previously, the proposed housing projects are infill developments, consistent with March 2009 LRDP Amendment Final EIR PP 4.8-1(c), and would maximize the use of limited land resources while enhancing spatial development, consistent with PP 4.8-1(e).

<u>On-Campus Land Uses</u>

With respect to compatibility with on-campus development, bridge efficiencies in the availability of dining services, recreational facilities, and resident student programming, each of the proposed housing projects would be adjacent to existing on-campus residential development. Dormitory-style buildings would be provided at the Lot 15, Bradley, and Drake Stadium sites, consistent with the types of student housing buildings currently provided in the Northwest zone. It should be noted

that the Existing LRDP does not anticipate residential development in the Central zone. However, the proposed housing project at the Drake Stadium site would be adjacent to existing high density residential development in the Northwest zone to the west. The proposed development of a residential structure at the western boundary of the Central zone over the Drake Stadium concourse would be compatible with these uses and would serve as a seamless transition from recreation and athletic uses to the east and the residential uses to the west. Additionally, the development of the proposed housing project at the Drake Stadium site would not conflict with the ongoing operation of adjacent and nearby recreation and athletic facilities. Apartment-style buildings would be provided at the UNEX and Warren Hall sites, consistent with existing residential development in and near the Southwest and Bridge zones. Graduate student beds would be limited to the Warren Hall site, which is adjacent to existing Weyburn Terrace graduate student housing, and has been anticipated in previous planning efforts for the Warren Hall site.

Further, March 2009 LRDP Amendment Final EIR PP 4.8-1(d) requires that new building projects be sited to ensure compatibility with existing uses and the height and massing of adjacent facilities. Implementation of this PP is accomplished through the design review process that UCLA uses for all campus development projects (see PP 4.1-1[a] in Section 4.1, Aesthetics, of this Draft SEIR). This design process is performed through various campus committees and includes evaluation of factors such as the proposed site and compatibility with adjacent uses, building mass and form, roof profile, and various aesthetic considerations. As previously discussed, the architecture of the proposed buildings would maintain continuity with UCLA campus architecture as appropriate to the context and materials of the existing built environment of each development site.

The introduction of new on-campus residential development at the proposed housing site would be compatible with existing surrounding residential uses.

Off-Campus Land Uses

As shown on Figure 4.9-1, the Warren Hall, UNEX, and Bradley sites are located within the campus boundaries, but immediately adjacent to off-campus uses. The Lot 15 site is approximately 180 feet east of the western campus boundary along Veteran Avenue, and the Drake Stadium site is approximately 220 feet south of the northern campus boundary along Sunset Boulevard. In addition to distance, the landscape buffers along Veteran Avenue and Sunset Boulevard (as required by the March 2009 LRDP Amendment Final EIR PP 4.1-2[d]) provide a physical and visual buffer between the Lot 15 site, Drake Stadium site, and off-campus uses. Additionally, as required by March 2009 LRDP Amendment Final EIR PP 4.1-2(b), the existing recreational fields in the Central zone of campus, east of the Drake Stadium site, would be maintained and would continue to provide a buffer between campus development and the residential uses north of Sunset Boulevard.

Off-campus uses adjacent to the Warren Hall and Bradley sites and north and south of the UNEX site include multi-family residential uses (refer to Figure 4.9-1). Commercial uses in Westwood Village are located south-southeast of the UNEX site. As further discussed in Section 4.1, Aesthetics, of this Draft SEIR, these areas are highly urbanized and consist of various multi-level buildings. The proposed housing projects at these sites would introduce new residential uses in an area that is predominantly developed with multi-family residential uses (largely occupied by individuals affiliated with UCLA, including students and faculty), and would represent a continuation of existing land uses. The proposed housing projects would not include any uses or functions that would conflict with existing residential uses off campus. It should also be noted that landscaping would be provided at each of the proposed housing sites to provide an attractive perimeter that provides a buffer between existing and proposed uses. Notably, the conceptual

site plan for the UNEX site (refer to Figure 3-12) includes a substantial landscape buffer along Le Conte Avenue to enhance the campus interface with Westwood Village (as required by March 2009 LRDP Amendment Final EIR PP 4.1-2[a]).

As identified previously, the proposed residential structure at the Drake Stadium site would be on the western edge of the Central zone, over the Drake Stadium concourse. The landscape perimeter along Sunset Boulevard obstructs views of the housing site from off-campus uses, including single-family residential uses north of Sunset Boulevard (refer to the site photographs provided in Figures 4.1-6b and 4.1-6c in Section 4.1, Aesthetics). Due to distance, the intervening landscape buffer and because the proposed residential use is consistent with existing adjacent uses, the proposed housing project at the Drake Stadium site would not include any uses or functions that would conflict with existing residential uses off campus.

As shown on Figure 4.9-1, the Lot 15 site is located east of off-campus single family residential uses in the Westwood Hills area. Site photographs presented in Figures 4.1-2b through 4.1-2d (refer to Views 4 through 8) in Section 4.1, Aesthetics, depict the physical and visual barrier provided along Veteran Avenue between the campus and the off-campus residential uses in this area. The proposed housing project at the Lot 15 site would introduce new dormitory-style residential uses in the Northwest zone; however, this is not a new type of use in this area. The Northwest zone is the only location on campus where this type of housing is currently accommodated. While the new structures would be on the west side of De Neve Drive, between the Saxon and Hitch residential suites, they would be across the street from similar uses east of De Neve Drive. Therefore, the proposed housing project at the Lot 15 site would not introduce a new type of use or activity into the area, and would not conflict with existing off-campus residential uses.

As discussed in Section 4.1, Aesthetics, and demonstrated in the visual simulations provided in Figures 4.1-8a through 4.1-8d, the proposed buildings at the Lot 15 site would be well within the current building elevations of surroundings buildings. The building elevations for the existing buildings range from approximately 525.5 to 619.0 feet above mean sea level (msl), and the proposed buildings would be 597.0 and 601.0 feet above msl. The visual simulations demonstrate that there would be little to no change in the views depicted from the vantage points in the Westwood Hills area. While the buildings would be visible from these and other vantage points in Westwood Village, a change in the viewshed would not result in an incompatibility between the proposed housing project and off-campus uses. Additionally, tree replacement would occur in the disturbed area to the west of the site, which would further enhance the existing visual buffer.

Section 4.10 of this Draft SEIR addresses potential noise impacts to adjacent uses resulting from proposed housing projects. As identified through this analysis, operation of the proposed uses would not result in significant noise impacts or noise levels that would conflict with existing off-campus uses.

In summary, the proposed housing projects would not result in land use incompatibilities with off-campus land uses from a physical and operational perspective. Impacts to off-campus land uses would be less than significant and no mitigation is necessary.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have a less than significant impact related to land use incompatibilities between campus development and adjacent community land uses.

4.9.4 CUMULATIVE IMPACTS

This section evaluates the potential for the proposed housing projects to result in a significant contribution to cumulative land use impacts associated with the approval of future development that is inconsistent with applicable land use plans or policies adopted for the protection of the environment, and resulting from potential incompatibilities between future development and existing land uses. As outlined in the March 2009 LRDP Amendment Final EIR, the geographic context for the analysis of cumulative land use and planning impacts includes that portion of the City of Los Angeles that is located west of downtown Los Angeles, south of the Santa Monica Mountains, and north of the Interstate 10 freeway, which acts as a natural boundary for land use considerations. This area encompasses the *Westwood Community Plan* area and parts of adjacent community plan areas, and it contains a mix of land uses, including commercial, residential, industrial, and institutional. The analysis accounts for anticipated cumulative growth within this geographic area, including implementation of the remaining development allocation on campus, the above-mentioned areas of Los Angeles, and development of cumulative projects identified in Section 4.0, Introduction to the Environmental Analysis, of this Draft SEIR.

It is anticipated that development of the identified off-campus cumulative projects and regional growth in general, will be reviewed for consistency with adopted land use plans and policies by the City of Los Angeles. The City would do this in accordance with the requirements of CEQA, the State Zoning and Planning Law, and the State Subdivision Map Act, all of which require findings of plan and policy consistency prior to approval of entitlements for development. Similarly, the proposed housing project and other on-campus development have been, or would be, designed and implemented in compliance with the Existing LRDP, PPs and MMs outlined in the March 2009 LRDP Amendment Final EIR, and other relevant UC and UCLA campus planning programs (e.g., the UCLA Physical Design Framework and the UC Sustainable Practices Policy). As addressed under Threshold 9.1 of this section, the proposed Project is consistent with applicable plans, policies, and regulations. As a result, implementation of the proposed housing project would not contribute to any cumulative impacts associated with plan or policy inconsistency.

It is anticipated that cumulative off-campus development would result in changes to the existing land use environment in the area through the conversion of vacant land and low-density uses to higher density uses, or through conversions of existing land use (e.g., from residential to commercial). However, it is assumed that future off-campus development would be (1) consistent with applicable City of Los Angeles General Plan and zoning requirements or subject to an allowable exception and (2) further subject to CEQA, mitigation requirements, and design review. Additionally, future development on campus under the Existing LRDP (174,615 gsf remaining development allocation) would be implemented in compliance with the PPs and MMs outlined in the March 2009 LRDP Amendment Final EIR, which have been developed to reduce potential impacts to existing uses (on and off campus) to less a less than significant level. Therefore, it can be assumed that through these requirements, future development would be compatible with existing land uses. However, it is possible that significant impacts related to land use compatibility might occur with respect to one or more of the related off-campus projects (or unknown future projects permitted in the area) due to specific issues associated with these projects or their location. Even if the cumulative impact of these projects would be significant, the contribution of the proposed housing projects to such cumulative land use impacts is less than significant and is

thus not cumulatively considerable because the proposed housing projects would be compatible with the land uses that surround it, in light of the continuation of the existing residential land uses. This is considered to be a less than significant impact.

As there would be no impact related to division of an established community or conflict with an HCP or NCCP, the proposed housing projects would not contribute to a cumulatively considerable impact.

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4.10 NOISE AND VIBRATION

Noise and vibration issues are addressed in Section 4.9 of the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR). This section evaluates the potential noise and vibration impacts resulting from implementation of the proposed Project. This includes the potential to cause a substantial temporary or permanent increase in ambient noise levels within or around any of the five proposed housing sites or to expose surrounding noise-sensitive receptors to excessive noise levels or vibration levels. The purpose of this analysis is to ensure that the proposed Project is compatible with the environment from a noise and vibration perspective and to evaluate the noise and vibration impacts of the proposed Project on the surrounding community. Sources used in the preparation of this section include the Project Description presented in Section 3.0 of this Draft Subsequent EIR (SEIR), Project plans, and the proposed Project's Traffic Impact Analysis included in Appendix H of this Draft SEIR (Crain 2017).

Relevant elements of the proposed Project related to construction noise and vibration include the use of diesel-powered heavy equipment during construction; use of heavy trucks for export of soil and demolition material; and transport of construction equipment/materials. With respect to operational noise, relevant elements include the use of mechanical equipment (such as air conditioning units) and social gatherings, primarily involving the student residents. As further discussed in this section, the proposed housing projects would result in a slight net reduction in daily vehicle trips; therefore, for purposes of this noise analysis, the change in trip generation would be negligible and noise reductions are not calculated.

Two Notice of Preparation (NOP) comment letters were received addressing noise issues and are included in Appendix A of this Draft SEIR. The Westwood Hills Property Owners Association (WHPOA) indicates (1) the Draft SEIR should examine and mitigate noise impacts of hauling, grading, and other construction activities; (2) the University of California, Los Angeles (UCLA) should limit facility construction and maintenance activities, such as garbage pickup and deliveries, to the hours provided by Los Angeles (LA) City code for similar activities in nearby residential areas; and (3) building entrances and exits and student outdoor activity spaces should be oriented toward campus. An individual NOP comment letter identified that (1) the proposed Project would increase and slow down traffic, thereby increasing noise; (2) nearby homes would be affected by unwelcome noise emanating from campus facilities; and, (3) LA City codes that relate to hours for activities such as construction and maintenance, garbage pickup, and deliveries should be strictly adhered to so as not to disturb the peace and quiet.

4.10.1 ENVIRONMENTAL SETTING

Fundamentals of Sound and Environmental Noise

Sound is a vibratory disturbance that is created by a moving or vibrating source and is capable of being detected by the ear. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. Frequencies are heard as the pitch or tone of sound. High-pitched sounds produce high frequencies; low-pitched sounds produce low frequencies. Sound pressure levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Human perception of noise has no simple correlation with acoustical energy. Due to subjective thresholds of tolerance, the annoyance of a given noise source is perceived very differently from person to person. The most common sounds vary between 30 dBA (very quiet) to 100 dBA (very loud). Normal conversation at 3 feet is approximately 60 dBA, while loud jet engine noises at 1,000 feet equate to 100 dBA, which can cause serious discomfort. Table 4.10-1 shows the relationship of various noise levels in dBA to commonly experienced noise events.

TABLE 4.10-1
NOISE LEVELS FOR COMMON EVENTS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Flyover at 300 m (1,000 ft)	100	
Gas Lawn Mower at 1 m (3 ft)	90	
Diesel Truck at 15 m (50 ft) at 80 km/hr (50 mph)	80	Food Blender at 1 m (3 ft), Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower at 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area, Heavy Traffic at 90 m (300 ft)	60	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	50	Large Business Office, Dishwasher in Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing
dBA: A-weighted decibels; m: meter; ft: feet; km/hr: kilometers per hour; mph: miles per hour Source: Caltrans 2013		

The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two noise sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive changes of a 3 dBA increase or decrease; that a change of 5 dBA is readily perceptible; and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud (Caltrans 2013).

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider the fact that the effect noise has upon people is largely dependent upon the total acoustical energy content of the noise and the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- **L_{eq}:** the equivalent energy noise level is the average acoustic energy content of noise for a stated period of time.
- **CNEL:** the Community Noise Equivalent Level is a 24-hour average L_{eq} with a 10 dBA "weighting" added to the hours between 10:00 PM and 7:00 AM and an additional 5 dBA weighting added to hours between 7:00 PM and 10:00 PM to account for noise sensitivity in the nighttime and evening, respectively.
- **L_{max}:** the maximum instantaneous noise level experienced during a given period of time.

Noise levels from a particular source decline as distance to the receptor increases. Other factors, such as the weather and reflecting or shielding also help intensify or reduce the noise level at any given location. Sound from a small localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. For point sources, such as heating, ventilation, and air conditioning (HVAC) units or construction equipment, the sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of the distance (i.e., if the noise level is 70 dBA at 25 feet, it is 64 dBA at 50 feet). Vehicle movement on a road makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The sound level attenuates or drops off at a rate of 3 dBA per doubling of distance for line sources. Noise levels may also be reduced by intervening structures—generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of masonry residential units and non-residential buildings with double-glazed windows is generally 30 dBA or more (Caltrans 2013). In order to meet building code requirements for energy conservation—and the code requirements are greater with each three-year update—new construction uses dual pane or better windows, increased wall and roof insulation, and sealing around openings, which results in greater exterior-to-interior noise reduction.

Fundamentals of Environmental Vibration

Vibration is sound radiated through the ground. The ground motion caused by vibration is measured as peak particle velocity (ppv) in inches per second or as vibration decibels (VdB). The general human response to different levels of groundborne vibration velocity levels is described in Table 4.10-2, Human Response to Different Levels of Groundborne Vibration.

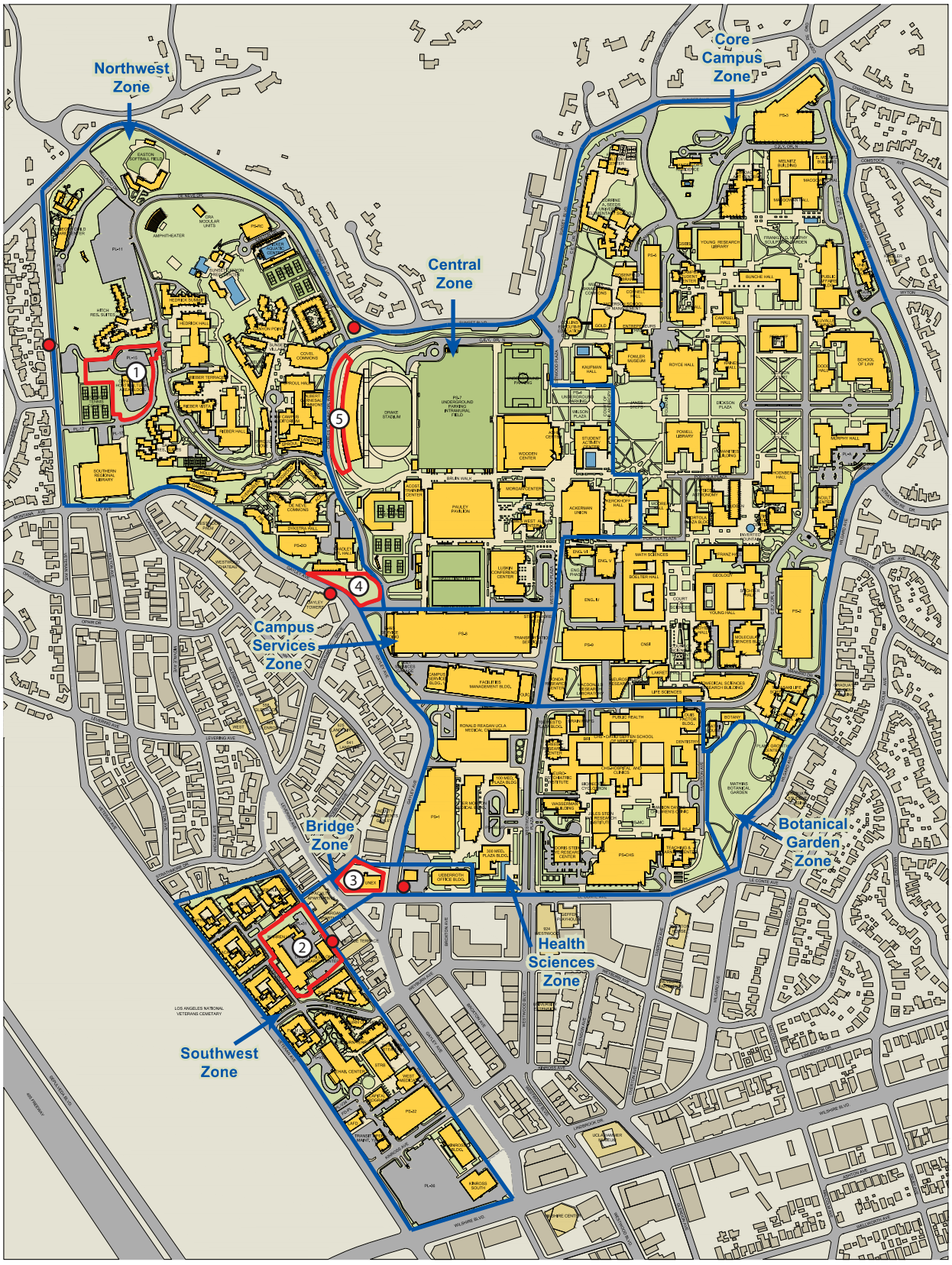
TABLE 4.10-2
HUMAN RESPONSE TO DIFFERENT LEVELS OF GROUNDBORNE VIBRATION

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.
VdB: vibration decibels Source: FTA 2006.	

Vibration of building components can also take the form of an audible low-frequency rumbling noise, which is referred to as groundborne noise. Typically, groundborne noise is a concern that occurs with railroad and similar transit sources. As there are no railroad or transit noise and vibration sources in the campus area, the impact of groundborne noise is not addressed in this Draft SEIR.

Existing Noise Levels

Existing ambient daytime noise levels were measured at each of the proposed housing sites on May 11, 2017, between 10:00 AM and 2:30 PM in order to identify representative existing noise levels. The noise measurement locations are identified in Figure 4.10-1 and the noise survey data



Noise Monitoring Locations
Proposed Housing Sites
1 Lot 15
2 Warren Hall
3 UNEX
4 Bradley
5 Drake Stadium

Source: UCLA 2014

Noise Monitoring Locations

Figure 4.10-1

UCLA LRDP Amendment (2017) and Student Housing Projects

N W E S

PSOMAS

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is provided in Appendix G. The noise levels were measured using a Larson-Davis Laboratories Model LXT integrating sound level meter, which satisfies the American National Standards Institute for general environmental noise measurement instrumentation. The sound level meter and microphone was mounted on a tripod five feet above the ground and equipped with a windscreen during all measurements. The sound level meter was programmed in "slow" mode to record noise levels in "A" weighted form. Meteorological conditions during the measurement periods were favorable and representative of the typical conditions, with temperatures of approximately 65–68 degrees Fahrenheit (°F) and minimal wind.

The average (L_{eq}), maximum (L_{max}), and minimum (L_{min}) noise levels measured at each location are identified in Table 4.10-3. The primary noise sources were traffic on local roadways. In urban and suburban settings, the CNEL is typically 2 dBA greater than the average daytime noise level. Therefore, the existing CNEL at each location is also shown in Table 4.10-3.

TABLE 4.10-3
NOISE MONITORING RESULTS

Site Location ID	Location Description	Time Started/Duration[a]	Major Noise Sources	Noise Level (dBA)			
				L_{eq}	L_{max}	L_{min}	CNEL[b]
Lot 15 (1)	Meter located 5 ft outside the 227 Veteran Ave property line.	12:48 PM, 20 minutes	Traffic	69	83	49	71
Warren Hall (2)	Meter located along Weyburn Pl, adjacent to the eastern boundary of the Warren Hall site (900 Weyburn Pl).	10:20 AM, 20 minutes	Distant freeway sounds; cars driving on Weyburn Pl.	60	68	58	62
UNEX (3)	Meter located off the northeast corner of Gayley Ave and Le Conte Ave.	11:18 AM, 21 minutes	Traffic	71	92	56	73
Bradley (4)	Meter located along Gayley Avenue, 5 ft outside the 565 Gayley Ave property line.	12:05 PM, 20 minutes	Traffic	67	77	54	69
Drake Stadium (5)	Meter located in the space between Sunset Blvd, De Neve Dr, and Charles E Young Dr N.	1:46 PM, 20 minutes	Fast cars along Sunset Blvd.	76	94	56	78

dBA: A-weighted decibels; L_{eq}: average noise level; L_{max}: maximum noise level; L_{min}: minimum noise level

[a] All Noise measurements were taken on May 11, 2017.

[b] CNEL calculated from measured L_{eq}

Noise measurement data in Appendix G.

As shown in Table 4.10-3, the primary noise source at all sites was vehicle traffic on adjacent or nearby streets. Average daytime noise levels ranged from 60 to 76 dBA L_{eq}. As would be expected, noise levels were lowest on a minor street, Weyburn Place; moderate on local arterials, Veteran Avenue and Gayley Avenue; and loudest near a major arterial, Sunset Boulevard.

Helicopter Noise

Noise is generated by helicopter operations serving the Ronald Reagan UCLA Medical Center (RRUCLAMC). The helistop is located on the roof of the RRUCLAMC (located southwest of the Charles E. Young Drive South and Westwood Boulevard intersection). Current helicopter

operations are limited to emergency patient transport and to support the medical center's organ transplant program. Non-emergency flights are not allowed. As shown in Figure 4.9-4 of the March 2009 LRDP Amendment EIR, none of the proposed housing sites are within the estimated annual 65 dBA CNEL noise level contour for the helicopter operations; the closest site is UNEX, which is approximately 0.2 mile south of the helistop.

Construction Noise

As described in Section 3.5.6 of this Draft SEIR, construction is occurring at various locations on the UCLA campus. The Margan Apartments Redevelopment Project, adjacent to the UNEX and Warren Hall sites, was initiated in June 2017, after the May 11, 2017, noise measurements described above were conducted. With diesel-engine equipment operations, construction noise can be substantial at the adjacent properties.

Existing Campus Noise Control

As identified in the March 2009 LRDP Amendment EIR, the existing noise levels on the campus and in the surrounding vicinity are lower than they would otherwise be, because the UCLA campus implements numerous programs to reduce on-campus noise levels and motor vehicle trips (thereby reducing associated off-campus noise sources). In summary, these programs include (1) stationary source noise controls (shielding stationary sources of noise from nearby noise-sensitive receptors); (2) land use buffering (providing a landscaped buffer along the western, northern, and eastern edges of the main campus consistent with the requirements of Programs, Practices, and Procedures [PP] 4.9-6(b)); (3) construction noise controls (limiting the hours of exterior construction activities from 7:00 AM to 9:00 PM Monday through Friday and 8:00 AM to 6:00 PM on Saturday, consistent with the City of Los Angeles Construction Noise Ordinance, and identifying construction-related transportation routes); and (4) vehicular traffic noise controls (including use of alternative transportation and implementation of a Transportation Demand Management [TDM] Program).

Additionally, UCLA requires that residents in on-campus housing (and off-campus University apartments) abide by the "On Campus Housing Regulations" and the UCLA Student Conduct Code. Specifically, Section A.11 of the On Campus Housing Regulations includes the following provisions related to noise (UCLA 2017):

> a. All residents and guests are expected to be considerate of noise levels, 24 hours a day, seven days a week. Noise (including but not limited to voices, amplified music, televisions, musical instruments, radios) must be maintained at all times at a level which does not disturb any other resident. Residents are expected to comply with the requests of others to reduce noise levels at all times.
>
> Specifically designated Quiet Hours:
>
> - Sunday through Friday: 10:00pm to 8:00am
> - Saturday 1:00am through Saturday 9:00am
> - Sunday 1:00am through Sunday 9:00am
>
> During Quiet Hours, it is each resident's responsibility to be certain that no noise can be heard outside of her/his room/suite or in neighboring rooms, halls, or outside of the building.

Exceptions may be made for Residential Life approved programs.

b. Quiet Hours are extended to twenty two (22) hours 7:00 p.m. to 5:00 p.m. daily beginning on the first Sunday proceeding 10th week through the last two (2) weeks of each quarter during the academic year. Extended quiet hours shall be observed by all residents and guests of any floor which chooses to designate additional quiet hours. During the summer sessions, extended quiet hours must be observed when posted.

Sensitive Noise Receptors

Noise-sensitive receptors are generally considered to be those people engaged in activities or utilizing land uses that may be subject to the stress of significant interference from noise. Activities usually associated with sensitive receptors include, but are not limited to, talking, reading, and sleeping. Designated on-campus sensitive noise receptors include hospital, residential, library, day care, and elementary school uses; these uses are identified in Figure 4.9-2 of the March 2009 LRDP Amendment Final EIR. Additionally, although classrooms and faculty offices are not classified as sensitive noise receptors, the noise analysis of the March 2009 LRDP Amendment Final EIR considers these uses in the impact assessment. The primary off-site sensitive receptors are single- and multi-family residences. The nearest noise-sensitive receptors for each proposed housing site are discussed below.

- **Lot 15 Site.** The Lot 15 site is surrounded on three sides by UCLA on-campus housing. Specifically, the Hitch residential suites are approximately 40 feet north of the Lot 15 site (at the nearest points); the Saxon residential suites are approximately 40 feet to the southeast; and Rieber Terrace is approximately 125 feet to the east, across De Neve Drive. There are one- and two-story single-family homes to the west across Veteran Avenue, with the closest home approximately 250 feet from the site boundary (not including the construction staging area in the Boneyard).
- **Warren Hall Site.** The Warren Hall site is surrounded on four sides by multi-story residential housing. University- and privately owned apartment buildings facing onto Weyburn Place are located approximately 25 feet from the site.
- **UNEX Site.** The closest sensitive receptors are multi-story, off-campus residential buildings to the north and northwest, located within 20 feet of the site boundary.
- **Bradley Site.** The closest sensitive receptors to the Bradley site are multi-story, University- and privately owned residential buildings located to the southwest across Gayley Avenue. The nearest buildings are located proximate to the southeast portion of site, approximately 60 to 70 feet from the Bradley site boundary. The Dashew Center for International Students and Scholars, adjacent to the north Bradley site boundary is an administrative and recreational office building and is not a sensitive noise receptor.
- **Drake Stadium Site.** The closest sensitive receptor to the Drake Stadium site is the Sproul Hall residential building located approximately 70 feet from the site boundary to the west across Charles E. Young Drive West. Drake Stadium, a track and field facility, is approximately 150 feet to the east of the Drake Stadium site. The closest off-campus sensitive receptors are single family residences approximately 250 feet to the northeast on the north side of Sunset Boulevard.
- **Sewer Line Upgrades.** The closest receptors to the Lot 15 sewer upgrade alignment are the Saxon residential suites, which may be as close as 25 feet from the construction area, depending on the final alignment. The closest receptors to the Veteran Avenue upgrade alignment are the Palm Court residences on the east side of Veteran Avenue, which may

be as close as 25 feet from the construction area, depending on the final alignment. The closest receptors to the Gayley Avenue upgrade alignment are residences and medical facilities adjacent to Weyburn Drive and Gayley Avenue. These receptors may be as close as 25 feet from the construction area, depending on the final alignment.

4.10.2 REGULATORY FRAMEWORK

State

Title 24 of the *California Code of Regulations* (also known as the California Building Standards Code or, more commonly, as the California Building Code, Section 1207.4, Allowable Interior Noise Levels) requires that "Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (L_{dn}) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan" (CBSC 2017). This standard applies to all new student housing developed on the UCLA campus.

City of Los Angeles

UCLA is part of the University of California, a constitutionally created entity of the State of California. As a constitutional entity, the University of California is not subject to municipal regulations, such as the County and City General Plans or ordinances. Nevertheless, UCLA has considered local plans and policies for the communities surrounding the campus. The City of Los Angeles, through the Noise Element of the General Plan, classifies land uses for noise compatibility as acceptable, conditionally acceptable, normally unacceptable, and unacceptable depending on the noise level and land use. Noise levels that are less than 60 dBA CNEL are classified as acceptable for land uses that are sensitive to noise, such as multi-family residences, schools, libraries, churches, hospitals, nursing homes, and transient lodging (City of Los Angeles 1999). Noise levels from 60 to 70 dBA CNEL are "conditionally acceptable" for noise-sensitive uses, meaning a detailed analysis of noise mitigation is required and needed noise insulation features should be included in the project design. Noise levels from 70 to 75 dBA CNEL are considered by the City to be "normally unacceptable", also requiring that "a detailed analysis of noise reduction requirements must be made and noise insulation features included in the design of a project". Noise levels exceeding 75 dBA CNEL are classified "clearly unacceptable, and new construction or development generally should not be undertaken" (City of Los Angeles 1999).

The City of Los Angeles' Angeles' *L.A. CEQA Thresholds Guide* is not applicable to campus CEQA analysis. However, the construction noise impact threshold used in the March 2009 LRDP Amendment EIR, is consistent with the City thresholds guide, as further discussed below.

4.10.3 PROJECT IMPACTS AND MITIGATION

Methods

Noise Attenuation over Distance

The distance from the noise source to a receptor is a primary consideration in determining the actual noise level experienced at the receptor. As described above, the rate of noise attenuation depends on whether noise comes from a point or line source and whether the site is hard or soft. The calculation of noise at distances other than the reference distance, as defined below, uses the following equation:

$L_D = L_{REF} – K \log (D/D_{REF})$, where

L_D is the noise level at a distance D from the noise source,

L_{REF} is the noise level at a known, or "reference" distance D_{REF} from the source, and

K is a constant that depends on the source type and site conditions. For a point source and a hard site, K = 20 and the equation is the mathematical expression for a noise level being reduced by 6 dBA for each doubling of distance from the source. For a point source and a soft site, K = 25. For a line source and a hard site, K = 10. For a line source and a soft site, K = 15.

Construction Equipment Noise

Construction noise is related primarily to the use of heavy equipment. Noise generation for the concurrent operation of a number of pieces of mobile construction equipment are assessed as emanating from the center of the equipment activity or construction site. The analysis of construction noise considers both maximum and average noise levels. Average equipment noise levels are less than maximum levels because equipment is operated at full power for only part of an operating period. The fraction of operating time at full power is defined as the duty cycle or acoustic usage factor. The average noise level, L_{eq}, is related to the maximum noise level, L_{max}, by the following equation:

$L_{eq} = L_{max} + 10 \log (UF)$, where

L_{eq} is the average noise level from a piece of construction equipment at 50 feet,

L_{max} is the maximum noise level from a piece of construction equipment at 50 feet, and

UF is the acoustic usage factor.

L_{max} and UF (duty cycle) data are specified in the construction noise analysis under Threshold 10.3.

Vibration

Vibration levels are estimated using the following equation:

$L_v(D) = L_v(25) – 30 \log(D/25)$ where

$L_v(D)$ is the vibration level in VdB of a piece of equipment at a distance D, and

$L_v(25)$ is the vibration level of the piece of equipment at a distance at the reference distance of 25 feet.

Thresholds of Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project will normally have a significant adverse environmental impact related to noise and vibration if it will:

- Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.
- Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (including construction).
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

As described above, the State Title 24 building code standard for interior noise levels within new dwellings attributable to exterior noise sources is 45 dBA CNEL. Therefore, the proposed new student housing structures are subject to these standards. Compatibility of the proposed Project with this standard is analyzed under Threshold 10.1.

The State CEQA Guidelines do not define the levels at which permanent and temporary increases in ambient noise are considered "substantial". For the purposes of this analysis, and consistent with the thresholds used in the March 2009 LRDP Amendment Final EIR, noise impacts analyzed under Threshold 10.3 and 10.4 would be considered significant if the project results in the following:

- A permanent (i.e., long-term operational) CNEL increase of 3 dBA to or within the "normally unacceptable" or "clearly unacceptable" category or any 5 dBA or greater noise increase. The "normally unacceptable" or "clearly unacceptable" categories are residential and school areas where the ambient noise level exceeds 70 dBA CNEL. This threshold is consistent with the *Los Angeles CEQA Thresholds Guide* for operational noise (City of Los Angeles 2006).
- Construction activities lasting more than one day that increase the ambient noise levels by 10 dBA or more at any on-campus or off-campus noise-sensitive location within 500 feet of the construction site. This is consistent with the *Los Angeles CEQA Thresholds Guide* threshold for construction noise impacts (City of Los Angeles 2006). As discussed previously in this section, a noise level increase of 3 dBA is barely perceptible to most people, a 5 dBA increase is readily noticeable, and a difference of 10 dBA would be perceived as a doubling of loudness.

Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 LRDP Amendment Final EIR

The following Programs, Practices, and Procedures (PPs) and Mitigation Measures (MMs) were adopted as part of the March 2009 LRDP Amendment Final EIR, and are incorporated as part of the proposed Project and assumed in the analysis presented in this section.

PP 4.9-1 *The campus shall continue to evaluate ambient noise conditions when placing new student housing near regular sources of noise such as roadways, the on-campus helistop and stationary equipment, and design the new buildings to ensure that interior noise levels would be less than 45 dBA CNEL.*

PP 4.9-6(a) *The campus shall continue to shield all new stationary sources of noise that would be located in close proximity to noise-sensitive buildings and uses.*

PP 4.9-6(b) *The campus shall continue to provide a landscaped buffer along the western, northern, and eastern edges of the main campus in order to maximize the distance between the roadways and new buildings and provide an acoustically soft environment. At a minimum, this environment can be provided by planting grass and other low landscaping.*

PP 4.9-7(a) *To the extent feasible, construction activities shall be limited to 7:00 AM to 9:00 PM Monday through Friday, 8:00 AM to 6:00 PM on Saturday, and no construction on Sunday and national holidays, as appropriate, in order to minimize disruption to area residences surrounding the campus and to on-campus uses that are sensitive to noise.*

PP 4.9-7(b) *The campus shall continue to require by contract specifications that construction equipment be required to be muffled or otherwise shielded. Contracts shall specify that engine-driven equipment be fitted with appropriate noise mufflers.*

PP 4.9-7(c) *The campus shall continue to require that stationary construction equipment material and vehicle staging be placed to direct noise away from sensitive receptors.*

PP 4.9-7(d) *The campus shall continue to conduct regular meetings with on-campus constituents to provide advance notice of construction activities in order to coordinate these activities with the academic calendar, scheduled events, and other situations, as needed.*

PP 4.9-8 *The campus shall continue to conduct meetings, as needed, with off-campus constituents that are affected by campus construction to provide advance notice of construction activities and ensure that the mutual needs of the particular construction project and of those impacted by construction noise are met, to the extent feasible.*

MM 4.9-2 *The campus shall require by contract specifications that, to the extent feasible, large bulldozers, large heavy trucks, and other similar equipment not be used within 43 feet of occupied residence halls, within 34 feet of non-residential/non-sensitive buildings, and within 135 feet of buildings that house sensitive instrumentation or similar vibration-sensitive equipment or activities. The work shall be done with medium-sized equipment or smaller within these prescribed distances to the extent practicable.*

MM 4.9-7 *A solid noise barrier that would break the line of sight between the construction site and a sensitive use area would reduce construction noise by at least 5 dBA. Therefore, when detailed construction plans are complete, the campus shall review the locations of sensitive receptor areas in relation to the construction site. If it is determined that a 12-foot-high barrier would break the line of sight between an 11-foot-high noise source and adjacent sensitive use areas, a temporary barrier shall be erected to the extent practicable. The barrier shall be solid from the ground to the top, with no openings, and shall have a weight of at least 3 pounds per square foot, such as plywood that is ½-inch thick.*

Impact Analysis

Threshold 10.1	Would the project result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The analysis of Impact 4.9-1 in Section 4.9, Noise and Vibration, of the March 2009 LRDP Amendment Final EIR concluded that, although each individual development project would be subject to project-specific environmental review, implementation of PP 4.9-1 would ensure that interior noise levels are not in excess of the State's 45 dBA CNEL interior noise standard.

As discussed above, the City of Los Angeles General Plan and noise ordinance are not applicable to the campus. The standard addressed under this Threshold is the State Title 24 interior noise standard, which is applicable to the proposed on campus housing projects. Exposure of persons to or generation of noise levels considered to be substantial increases are addressed under Thresholds 10.3 and 10.4.

As discussed in Section 4.10.1 and Table 4.10-3 above, the primary noise source to the proposed housing sites is traffic on adjacent or nearby roadways. Roadway noise impacts to proposed Project residences are analyzed below. As discussed in Section 4.10.1, new construction provides at least 30 dBA exterior-to-interior noise reduction, and it is assumed that the proposed residential structures would achieve that attenuation.

- **Lot 15 Site.** As shown in Table 4.10-3 and Figure 4.10-1, the existing daytime noise level adjacent to Veteran Avenue, opposite the Lot 15 site, was measured at 69 dBA L_{eq} (Location 1). In urban and suburban settings, the CNEL is typically 2 dBA greater than the average daytime noise level. Therefore, the CNEL at Location 4 is assumed to be approximately 71 dBA. The closest proposed Lot 15 building would be at least 200 feet from Veteran Avenue; at this distance, traffic noise would be 6 dBA less than at Location 1. It is assumed that future traffic volumes and road improvements could increase the traffic noise up to 1 dBA compared to existing conditions.[1] Thus, the future traffic noise level at Lot 15 building exteriors would not exceed 70 dBA CNEL, and the interior noise level due to traffic noise would not exceed 40 dBA CNEL.
- **Warren Hall Site**. As shown in Table 4.10-3 and Figure 4.10-1, the existing daytime noise level adjacent to Weyburn Place, adjacent to the Warren Hall site, was measured at 60 dBA L_{eq} (Location 2). In urban and suburban settings, the CNEL is typically 2 dBA greater than the average daytime noise level. Therefore, the CNEL at Location 2 is assumed to be approximately 62 dBA. It is assumed that traffic noise on Weyburn Terrace is similar to or less than traffic noise on Weyburn Place. The proposed buildings at the

[1] An increase in volume of 25 to 30 percent would increase traffic noise by 1 dBA. In developed areas, future average daily traffic volume increases of this magnitude are unlikely; thus this is a conservative assumption.

Warren Hall site would be exposed to traffic noise similar to Location 2 (refer to Figure 3-10). It is assumed that future traffic volumes and road improvements could increase the traffic noise up to 1 dBA compared to existing conditions. Thus, the future traffic noise levels at Warren Hall building exteriors would not exceed 65 dBA CNEL, and the interior noise level due to traffic noise would not exceed 35 dBA CNEL.

- **UNEX Site.** As shown in Table 4.10-3 and Figure 4.10-1, the existing daytime noise level at the corner of Gayley Avenue and Le Conte Avenue, adjacent to the UNEX site, was measured at 71 dBA L_{eq} (Location 3). In urban and suburban settings, the CNEL is typically 2 dBA greater than the average daytime noise level. Therefore, the CNEL at Location 3 is assumed to be approximately 73 dBA. In January 2016, traffic noise at the intersection of Levering Avenue and Le Conte Avenue was measured at 67 dBA L_{eq} (UCLA 2016). The proposed UNEX building would be exposed to traffic noise similar to or less than at Location 3. It is assumed that future traffic volumes and road improvements could increase the traffic noise up to 1 dBA compared to existing conditions. Thus, the future traffic noise levels at the UNEX building exteriors would not exceed 75 dBA CNEL, and the interior noise level due to traffic noise would not exceed 45 dBA CNEL.
- **Bradley Site**. As shown in Table 4.10-3 and Figure 4.10-1, the existing daytime noise level adjacent to Gayley Avenue at the Bradley site was measured at 67 dBA L_{eq} (Location 4). In urban and suburban settings, the CNEL is typically 2 dBA greater than the average daytime noise level. Therefore, the CNEL at Location 4 is assumed to be approximately 69 dBA. It is assumed that traffic noise on Charles E. Young Drive West and Strathmore Place would be less than on Gayley Avenue. Parts of the Bradley site buildings would be exposed to traffic noise similar to Location 4 (refer to Figure 3-14). It is assumed that future traffic volumes and road improvements could increase the traffic noise up to 1 dBA compared to existing conditions. Thus, the future traffic noise levels at Bradley site building exteriors would not exceed 70 dBA CNEL, and the interior noise level due to traffic noise would not exceed 40 dBA CNEL.
- **Drake Stadium Site**. As shown in Table 4.10-3 and Figure 4.10-1, the existing daytime noise level near Sunset Boulevard, De Neve Drive, and Charles E Young Drive North, north of the Drake Stadium site, was measured at 76 dBA L_{eq} (Location 5). In urban and suburban settings, the CNEL is typically 2 dBA greater than the average daytime noise level. Therefore, the CNEL at Location 5 is assumed to be approximately 78 dBA. The north end of the proposed Drake Stadium residential building would be approximately 200 feet from Location 5 and 250 feet from Sunset Boulevard (refer to Figure 3-16); at this distance, traffic noise would be 6 dBA less than at Location 5. It is assumed that future traffic volumes and road improvements could increase the traffic noise up to 1 dBA relative to existing conditions. Thus, the future traffic noise level at Drake Stadium site building exteriors would not exceed 75 dBA CNEL, and the interior noise level due to traffic noise would not exceed 45 dBA CNEL.

All of the proposed residential buildings would have heating, ventilation, and air conditioning (HVAC) systems that would provide a fresh air supply with windows closed. As required by March 2009 LRDP Amendment Final EIR PP 4.9-1, the new buildings shall be designed to ensure that interior noise levels would be less than 45 dBA CNEL. Therefore, the proposed Project would be consistent with the California Building Code interior noise standards.

Consistent with the findings of the March 2009 LRDP Amendment Final EIR, the proposed Project would not exceed established noise regulations or standards. The impact would be less than significant.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have a less than significant impact related to exposure of persons to or generation of noise levels in excess of the California Building Code interior noise standards, which are the standards applicable to the proposed Project.

Threshold 10.2	Would the project result in the exposure of persons to or generation of excessive groundborne vibration levels?

The analysis of Impacts 4.9-2 and 4.9-3 in Section 4.9, Noise, of the March 2009 LRDP Amendment Final EIR concluded that buildout of development included in the 2002 LRDP, as amended in March 2009, would result in less than significant impacts related to the following:

- Off-campus vibration during construction from heavy trucks and on- and off-campus vibration during long-term campus operations.

The analysis of Impacts 4.9-2 and 4.9-3 in the March 2009 LRDP Amendment Final EIR also determined that buildout of development included in the 2002 LRDP, as amended in March 2009, would result in significant and unavoidable impacts related to the following:

- On-campus vibration during construction even with implementation of MM 4.9-2, PP 4.9-2, PP 4.9-7(a), and PP 4.9-7(d).

Construction (Short-Term) Vibration

The March 2009 LRDP Amendment Final EIR, in analysis of Impact 4.9-2, concluded that construction activities associated with heavy, loaded trucks and similar equipment could generate and expose users or residents of adjacent on-campus buildings to excessive groundborne vibration levels. Adherence to the hours of construction (required by PP 4.9-7[a]), and coordination/communication with on-campus constituents regarding construction activities (required by PP 4.9-7[d]) would reduce the impact, but not to a level considered less than significant. The 2009 LRDP Amendment Final EIR determined that groundborne vibration impacts from construction could be reduced with implementation of MM 4.9-2; but that this mitigation requires the use of medium-sized or smaller equipment, which may not always be feasible. Therefore, the March 2009 LRDP Amendment Final EIR concluded that potential impact to users or residents of adjacent on-campus buildings would be significant and unavoidable. Specifically, the LRDP Amendment Final EIR concluded that construction activities within 43 feet of occupied residence halls, within 34 feet of non-residential/non-sensitive buildings, and within 135 feet of buildings that house sensitive instrumentation or similar vibration-sensitive equipment or activities could result in significant vibration impacts.

The March 2009 LRDP Amendment Final EIR further determined that potential vibration impacts to off-campus residences and other sensitive land uses would be less than significant due to the buffer provided by perimeter streets between these uses and on campus construction activities.

<u>Vibration from Construction Equipment</u>

Construction activities for the proposed housing projects would have the potential to generate groundborne vibration. Table 4.10-4, Vibration Source Levels for Construction Equipment,

identifies various vibration velocity levels for the types of construction equipment that would operate at the campus during construction. This table does not show groundborne vibration velocity levels for pile driving or blasting, since they would not occur during construction of the proposed housing projects.

TABLE 4.10-4
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Approximate VdB			
	20 Feet	25 Feet	50 Feet	100 Feet
Large Bulldozer	89	87	78	69
Caisson drilling	89	87	78	69
Loaded Trucks	88	86	77	68
Jackhammer	81	79	70	61
Small Bulldozer	60	58	49	40

VdB: vibration decibels
Source: FTA 2006.

UCLA has not adopted thresholds for groundborne vibration. This analysis uses the Federal Transit Administration's (FTA's) vibration impact assessment criteria. Specifically, for residences and buildings where people normally sleep, the significance threshold used in this Draft SEIR is 80 VdB for "infrequent events", which are those events that occur fewer than 30 times per day, which is appropriate for construction vibration analysis where no pile driving would occur. Above this level, groundborne vibration would be noticeable by the residents and may be considered annoying or disruptive when they are trying to sleep, study, or relax.

The proposed housing projects would involve typical construction activities but would not include pile driving or blasting, which are the construction activities that generate the highest vibration levels. During the demolition and grading phases, the operation of construction equipment such as excavators, bulldozers, loaders, and loaded trucks have the potential to generate perceptible vibration levels at adjacent on- and off-campus residential buildings that are located as close as 20 feet from the construction limits (refer to the previous discussion of existing sensitive receptors). The construction of some buildings may require piles that would be drilled and then cast in place, rather than driven. As shown in Table 4.10-4, vibration levels could reach 89 VdB at buildings within 20 feet of construction activities where the operation of heavy or large construction equipment occurs.

In order for construction activities not to significantly impact occupied residential buildings (i.e., reach vibration levels over 80 VdB), the operation of heavy or large construction equipment would need to occur at least 43 feet away. The Lot 15, Warren Hall, and UNEX sites have occupied residential buildings within 43 feet of the site construction limits. The campus has determined that it would be feasible to use medium-sized equipment or smaller at the proposed housing projects where construction would occur within 43 feet of occupied residential buildings. Thus, the proposed Project would incorporate MM 4.9-2. Accordingly, vibration impacts to adjacent residential uses from the operation of on-site construction equipment would be less than significant, and no additional mitigation would be required.

It should also be noted that the sewer line upgrades for the Lot 15 and Warren Hall sites would also require construction within 43 feet of the residential receptors. However, large, heavy equipment would not be used for sewer line work, and the impact would be less than significant.

Vibration from Haul Trucks During Construction

Demolition and grading activities would require the use of haul trucks to remove demolished materials and soil from the proposed housing sites. The most frequent haul truck use from a single site would be during grading and soil export from the Bradley site, with an estimated 63 round trips per day would occur for a 3-month period in 2023. Construction activities at the Drake Stadium site, which would be under construction at the same time, is estimated to generate only 1 round truck trip per day. The truck route for the Bradley site would include Interstate (I) 405, Wilshire Boulevard, Veteran Avenue, Gayley Avenue, Strathmore Place, and Charles E. Young Drive West. There are residences adjacent to Veteran Avenue and Gayley Avenue. As shown in Table 4.10-4, heavy, loaded trucks can generate vibration levels of 77 VdB at a distance of 50 feet, a typical distance for residences adjacent to Veteran Avenue and Gayley Avenue. Vibration levels of 77 VdB would exceed the FTA's criterion of 72 VdB for frequent events (more than 70 per day) and would be a potential significant impact. To avoid this impact and, as required by MM 4.9-2, smaller 10-ton trucks would be used for demolition and soil hauling associated with construction at the project sites, compared with "heavy" 16 to 20 ton trucks. The use of smaller trucks would reduce the potential impact to less than significant. It should also be noted that the calculation of estimated haul truck trips was based on the use of ten-ton trucks.

Similarly, 10-ton trucks would be used for hauling demolition spoils and soil to and from the Lot 15, Warren Hall, and UNEX, project sites. As described in Section 3.5.6, the construction access routes for these sites would be coordinated to reduce traffic congestion and associated traffic-related impacts (such as construction noise). Notably, while all of the trucks would use I-405 and Wilshire Avenue, construction access routes to the sites from Wilshire Avenue have been developed to avoid overlaps to the extent feasible. The only overlaps in construction traffic adjacent to sensitive uses would occur at the following locations: (1) along Veteran Avenue adjacent to two existing Weyburn Terrace graduate student housing buildings for the Warren Hall site (demolition and earthwork) and UNEX site (earthwork), which would generate an estimated 64 truck trips combined; and (2) along Gayley Avenue between Weyburn Avenue and Le Conte Avenue (a distance of approximately 700 feet adjacent to residential uses on the west side of Gayley Avenue) for the Lot 15 site (demolition and earthwork) and UNEX site (earthwork), which would generate an estimated 58 truck trips combined. The use of the smaller trucks, and the less frequent daily truck trips than analyzed above for the Bradley site would ensure less than significant vibration impacts to off-site receptors resulting from truck trips associated with the Lot 15, Warren Hall and UNEX sites.

Therefore, truck activity during construction of the proposed housing projects would not expose occupants of off-campus buildings to excessive groundborne vibration levels, and this impact would be less than significant, consistent with the finding in the March 2009 LRDP Amendment Final EIR.

Operational (Long-Term) Vibration

The proposed on-campus student housing projects would not be a source of vibration during operation, nor are the housing sites located near existing sources of vibration, such as rail lines. Therefore, operational activities during implementation of the proposed housing projects would not expose on- or off-campus persons to excessive groundborne vibration levels, and this impact would be less than significant, consistent with the finding in the March 2009 LRDP Amendment Final EIR.

Additional Project-Level Mitigation Measures

No additional mitigation measures are feasible.

Level of Significance after Mitigation

The proposed Project would have a less than significant impact related to exposure of persons to generation of excessive groundborne vibration levels from on-site and off-site activities.

Threshold 10.3	Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The analysis of Impacts 4.9-5 and 4.9-6 in Section 4.9, Noise and Vibration, of the March 2009 LRDP Amendment Final EIR concluded that buildout of development included in the 2002 LRDP, as amended in March 2009, would result in less than significant impacts related to the following:

- On- or off-campus ambient roadway noise levels with implementation of PP 4.13-1(c) and PP 4.13-1(d);
- On- or off-campus ambient stationary source noise levels with implementation of PP 4.9-6(a); and
- Cumulative operational noise impacts.

The State CEQA Guidelines do not define the levels at which permanent and temporary increases in ambient noise are considered "substantial". Consistent with the March 2009 LRDP Amendment Final EIR, for the purposes of this analysis, noise impacts would be considered significant if the project results in the following:

A permanent (i.e., long-term operational) CNEL increase of 3 dBA to or within the "normally unacceptable" or "clearly unacceptable" category or any 5 dBA or greater noise increase. The "normally unacceptable" or "clearly unacceptable" categories are residential and school areas where the ambient noise level exceeds 70 dBA CNEL.

Operational (Long-Term) Noise

Traffic (Mobile) Sources

As shown in Section 4.13, Transportation and Traffic, and the Traffic Impact Study provided in Appendix H of this Draft SEIR, with the increase in on-campus residents, the proposed Project would have a reduction of 77 daily trips (taking into consideration student residents and new employees at the proposed housing sites) (Crain 2017). This reduction in daily trips would be partially offset by new trips associated with deliveries and service/maintenance vehicles which, in some cases, only occur weekly, twice weekly, or only in the summer. Conservatively assuming these potential trips would occur on the same day, there would be approximately 50 new daily trips. Therefore, there would be a net reduction of approximately 27 trips with implementation of the proposed housing projects. Therefore, for purposes of this noise analysis, it is assumed there would be a negligible change in traffic volumes. Thus, there would be no discernible change, and no increase in noise levels from traffic on off-campus or on-campus roadways. There would be no long-term traffic-related noise impacts resulting from implementation of the proposed housing projects.

Stationary Sources

New HVAC equipment would be installed on each proposed building and emergency generators would be installed at each proposed housing site. These would be new noise sources at the Lot 15, Bradley, and Drake Stadium sites. At the Warren Hall and UNEX sites, there are existing HVAC units. To provide a relatively quiet environment on the campus that is conducive to the educational process and at off-campus sensitive noise receptors, PP 4.9-6(a) is incorporated into the proposed Project and requires that new stationary sources of noise that would be located in close proximity to noise-sensitive buildings and uses be shielded. The March 2009 LRDP Amendment Final EIR determined that, with application of PP 4.9-6(a), stationary sources associated with future on-campus buildings would result in equipment noise levels of less than 51 dBA Leq at ground level. Based on the data shown in Table 4.10-3, and the discussion under Threshold 10.1, daytime noise levels at the proposed housing sites or the nearest sensitive receptors would be 60 dBA L_{eq} or greater. Based on typical traffic patterns, nighttime noise levels would be approximately 6 dBA less than daytime noise levels, or 54 dBA L_{eq} or greater. The addition of 51 dBA L_{eq} HVAC noise to 54 dBA L_{eq} noise would increase the ambient noise level by less than 2 dBA. With ambient noise levels higher than 54 dBA L_{eq}, the noise increase would be less. Therefore, stationary equipment noise levels would not cause a substantial permanent increase in noise levels of 5 dBA CNEL or more, Therefore, the operation of stationary mechanical equipment at the project sites would not create significant noise impacts to nearby noise-sensitive uses, and no mitigation measures would be required.

As shown on Figure 3-8, the loading docks at the Lot 15 site would be located on the east ends of two proposed buildings facing away from the off-site residences to the west. The loading docks would be located under the buildings. Therefore, loading dock noise would be shielded from the residences by the building; the noise impact would be less than significant. Similarly, loading docks at the proposed Warren Hall, UNEX, and Bradley sites would be located beneath the buildings. Noise from the loading docks would occur inside the buildings and the noise impacts to nearby sensitive receptors would be less than significant.

Outdoor Sources to Off-site Receptors

No outdoor athletic facilities (e.g., basketball courts) are proposed for any of the housing sites. Noise would be generated by residents entering and leaving the buildings and gathering in areas near the buildings for social activities. The magnitude of noise from a group of people depends on (1) the individual voice level; (2) the number of people; (3) whether the source is synchronized or random with time; and (4) whether the crowd noise is directional or has a diffused orientation (i.e., whether the people are facing in various directions such that only a fraction of the voices are facing any single receptor) (Hayne et al. 2006). With respect to factors 3 and 4, social gatherings are random with time and have a diffused orientation, unlike crowds in the stands at games or concerts. With a relatively large gathering for a residential outside area (e.g., 40 persons), the noise level is estimated not to exceed 75 dBA L_{eq} at 50 feet.

For the Lot 15 site, as shown on Figure 3-8, the entrances to the buildings would face away from the off-site residences on the west side of Veteran Avenue. A social gathering in the area between the buildings would be approximately 450 feet from the off-site residences on the west side of Veteran Avenue, and noise would be reduced by approximately 19 dBA over that distance. Additional noise reduction may occur due to the noise-absorbent landscaping between the gathering area and Veteran Avenue and, depending on the location of the gathering, shielding by buildings that would block the line of sight between the gathering and a receptor. A noise level of 56 dBA L_{eq} at the west side of Veteran Avenue would be less than the daytime traffic noise levels (measured at 69 dBA L_{eq}; see Table 4.10-3) and similar to or less than nighttime traffic noise levels. Because of the different characteristics of traffic noise and voices, some voices from the

Lot 15 site may be perceptible at Veteran Avenue during lulls in traffic. It should also be noted that existing noise from the Lot 15 parking lot would be eliminated by the proposed housing project at this site. Equally important are the UCLA "On Campus Housing Regulations" and the UCLA Student Conduct Code. Specifically, Section A.11 described in Section 4.10.1 above. These regulations require that noise level do not disturb other residents. It therefore follows that if noise is at a level that will not disturb on-site residents, it will not disturb off-site residents. In summary, the noise increase from the proposed Lot 15 residences to the off-campus residences would not be substantial.

The Warren Hall and UNEX sites currently include land uses that generate noise from a variety of uses, including vehicle parking and people entering, leaving, and gathering around residential and non-residential facilities. The outdoor noise generated from the proposed housing projects on these sites would not be notably different than the existing noise. Further, enforcement of the UCLA "On Campus Housing Regulations" and the UCLA Student Conduct Code, as described above, would ensure that the noise increase to the off-campus receptors would not be substantial.

The Bradley site is currently undeveloped. Outdoor noise sources from social gathering would be new noise sources. Noise from social gatherings in the north and central courtyards (refer to Figure 3-14) would be shielded from off-campus receptors to the west-southwest by the proposed buildings. Noise from social gatherings in the south courtyard may be perceptible at off-campus receptors, but would generally be dominated by traffic noise on Gayley Avenue. Further, enforcement of the UCLA "On Campus Housing Regulations" and the UCLA Student Conduct Code, as described above, would ensure that the noise increase to the off-campus receptors would not be substantial.

The Drake Stadium site is approximately 800 feet from off-campus sensitive receptors. New outdoor noise resulting from the proposed Project would not impact off-site receptors.

In summary, outdoor noise from operation of the proposed housing sites would not be substantial and would be less than significant. Further, as discussed previously, UCLA implements various programs and facilities to reduce on-campus noise levels. Relative to operations at the proposed residential uses, these include buffers along the western, northern, and eastern edges of the main campus—which is incorporated into the Lot 15, Bradley, and Drake Stadium housing projects (consistent with PP 4.9-6(b)—and imposing noise restrictions for on-campus housing. Specifically, noise (including but not limited to voices, amplified music, televisions, musical instruments, radios) is required to be maintained at all times at a level that does not disturb any other resident; specific "quiet hours" are defined, during which times no noise can be heard outside of an individual's room/suite or in neighboring rooms, halls, or outside of the building.

Outdoor noise sources also include landscape maintenance equipment such as lawn mowers and leaf blowers. Landscape maintenance activities currently occur on or near each project site and in nearby areas. Noise from landscape maintenance at the proposed housing sites would not be substantially different than existing conditions.

The proposed housing projects would not result in a substantial permanent on-campus or off campus increase in ambient roadway noise levels, consistent with the findings of the March 2009 LRDP Amendment Final EIR (Impact 4.9-5). The proposed Project would add new stationary sources and would comply with PP 4.9-6(a), which would ensure that the increase in ambient noise to on-and off-campus receptors would not be substantial, consistent with the findings of the March 2009 LRDP Amendment Final EIR (Impact 4.9-6).

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

There would be a less than significant impact related to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the Project.

Threshold 10.4	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

The analysis of Impacts 4.9-7 through 4.9-9 in Section 4.9, Noise and Vibration, of the March 2009 LRDP Amendment Final EIR determined that buildout of development included in the 2002 LRDP, as amended in March 2009, would result in significant and unavoidable impacts related to the following:

- On- and off-campus ambient noise levels during construction even with implementation of MM 4.9-7, PPs 4.9-7(a) through 4.9-7(d), and PP 4.9-8.

The State CEQA Guidelines do not define the levels at which permanent and temporary increases in ambient noise are considered "substantial". Consistent with the March 2009 LRDP Amendment Final EIR, for the purposes of this analysis, noise impacts would be considered significant if the project results in the following:

- Construction activities lasting more than 1 day that increase the ambient noise levels by 10 dBA or more at any on-campus or off-campus noise-sensitive location within 500 feet of the construction site. A noise level increase of 3 dBA is barely perceptible to most people, a 5 dBA increase is readily noticeable, and a difference of 10 dBA would be perceived as a doubling of loudness.

Short-Term (Construction) Noise

As described in Section 3.5.6, Construction Activities, of this Draft SEIR, there would be two construction periods. It is assumed that construction of the proposed housing projects at the Lot 15, Warren Hall, and UNEX sites would be initiated first, with completion estimated in spring 2021 (Lot 15 and UNEX sites), and early (winter) 2022 (Warren Hall site). Construction activities at the Drake Stadium and Bradley sites are estimated to be initiated in fall 2022 and spring 2023, respectively, and be completed by summer 2025. Construction at these sites would not overlap with the construction activities at the Lot 15, Warren Hall, and UNEX sites.

The primary noise sources during construction are the diesel engines of construction equipment and the impact noise from operations such as pile driving, blasting, and jackhammering. Variation in power is an element in characterizing the noise source level from construction equipment and is accounted for by describing the full power or maximum noise level and the duty cycle. Typical maximum noise levels and duty cycles of representative types of equipment are listed in Table 4.10-5, Typical Maximum Noise Levels and Duty Cycles for Construction Equipment.

During construction, nearby receptors would be exposed to typical noise levels associated with the operation of diesel engine-powered construction equipment, including backhoes, forklifts, cranes, and concrete pumps. The proposed housing projects would not require pile driving or

blasting during construction. It is expected that the noisiest construction on the project sites would be the operation of jackhammers, excavators, loaders, and trucks that would occur during demolition at the Lot 15, Warren Hall, UNEX, and Drake Stadium sites (there is limited demolition at the Bradley site), and grading at the Lot 15, Warren Hall, UNEX, and Bradley sites (there is limited grading at the Drake Stadium site). The duration of demolition and grading would be approximately two to four months, depending on the site (refer to construction schedule assumptions presented in Table 3-7 in Section 3.0, Project Description, of this Draft SEIR). During the building phases, following grading, there would be less use of noisier equipment and noise levels would be lower.

TABLE 4.10-5
TYPICAL MAXIMUM NOISE LEVELS AND DUTY CYCLES FOR CONSTRUCTION EQUIPMENT

Equipment	Noise Level (dBA) at 50 ft	Typical Duty Cycle
Auger Drill Rig	85	20%
Backhoe	80	40%
Chain Saw	85	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 KVA or less)	70	50%
Generator (more than 25 KVA)	82	50%
Grader	85	40%
Jackhammer	85	20%
Mounted Jackhammer (hoe ram)	90	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%

dBA: A-weighted decibels; ft: feet; KVA: kilovolt amps

Note: Machinery equipped with noise-control devices or other noise-reducing design features do not generate the same level of noise emissions as that shown in this table.

Source: Thalheimer 2000.

Construction equipment noise at any receptor would not be constant because of the variations of equipment power and equipment moving around the individual construction sites. An excavator operating at 20 feet from a receptor would generate intermittent noise levels of 91 dBA L_{max} and

an average noise level of 87 dBA L_{eq}. At 70 feet, the noise levels would be 82 dBA L_{max} and 78 dBA L_{eq}. A backhoe and dump truck operating at an average distance of 50 feet from a nearby building would generate an average noise level of 81 dBA L_{eq} with occasional maximum noise levels of 85 dBA.

Following is a discussion of potential construction-related noise impacts to (1) on-campus and adjacent University-owned off campus sensitive receptors, and (2) privately-owned off-campus sensitive receptors.

Construction-Related Noise at On-Campus and Adjacent University-Owned Sensitive Receptors

- **Lot 15 Site.** The Lot 15 site is surrounded on three sides by UCLA on-campus housing. Specifically, the Hitch residential suites are approximately 40 feet north of the Lot 15 site (at the nearest points); the Saxon residential suites are approximately 40 feet to the southeast and Rieber Terrace is approximately 125 feet to the east. As shown in Table 4.10-3, the existing daytime noise level adjacent to Veteran Avenue, opposite the Lot 15 site, was measured at 69 dBA L_{eq} (Location 1). The Hitch and Saxon buildings are approximately 250 to 450 feet from Veteran Avenue; at this distance, the daytime noise level would be 55 to 51 dBA L_{eq}. Construction noise at these receptors would periodically exceed 80 dBA and would exceed the ambient noise level more than 10 dBA, which, as described above, is the threshold of significance used in the March 2009 LRDP Amendment Final EIR. This would be a potentially significant impact.
- **Warren Hall Site.** The Warren Hall site is surrounded on four sides by multi-story residential housing. University-owned apartment buildings facing onto Weyburn Place are located approximately 25 feet from the site. As shown in Table 4.10-3, the existing daytime noise level adjacent to Weyburn Place, adjacent to the Warren Hall site, was measured at 60 dBA L_{eq} (Location 2). This value is representative of the ambient daytime noise level at the nearest sensitive receptors. Construction noise at these receptors would periodically exceed 85 dBA and would exceed the ambient noise level by more than 10 dBA. This would be a potentially significant impact.
- **UNEX Site.** The closest on-campus sensitive receptors are the faculty apartments and Margan apartments on the west side of Levering Avenue, approximately 50 feet from the UNEX site boundary. In January 2016, traffic noise at the intersection of Levering Avenue and Le Conte Avenue was measured at 67 dBA L_{eq} (UCLA 2016). Construction noise at these receptors would periodically exceed 85 dBA and would exceed the ambient noise level by more than 10 dBA. This would be a potentially significant impact.
- **Bradley Site.** The closest sensitive receptors to the Bradley site are multi-story, University-owned residential buildings located off campus to the southwest across Gayley Avenue (Gayley Towers). The nearest buildings are located proximate to the southwest portion of site, approximately 60 to 70 feet from the Bradley site boundary. The Dashew Center for International Students and Scholars, adjacent to the north Bradley site boundary, is the nearest on campus occupied building; this is an administrative and recreational office building and is not a sensitive noise receptor. The existing daytime noise level adjacent to Gayley Avenue at the Bradley site was measured at 67 dBA L_{eq} (Table 4.10-3, Location 4). Construction noise at the off-campus University-owned residential receptors would periodically exceed 84 dBA and would exceed the ambient noise level by more than 10 dBA. This would be a potentially significant impact.
- **Drake Stadium Site.** The closest on-campus sensitive receptor to the Drake Stadium site is the Sproul Hall residential building located approximately 70 feet from the site boundary to the west across Charles E. Young Drive West. As shown in Table 4.10-3, the existing daytime noise level near Sunset Boulevard, De Neve Drive, and Charles E Young Drive

North, north of the Drake Stadium site, was measured at 76 dBA L_{eq} (Location 5). Sproul Hall is approximately 500 feet from Sunset Boulevard. Considering this distance and intervening buildings, the daytime noise level at Sproul Hall is estimated at 61 to 66 dBA L_{eq}. Construction noise at Sproul Hall would periodically exceed 84 dBA and would exceed the ambient noise level by more than 10 dBA. This would be a potentially significant impact.

Construction-Related Noise at Off-Campus Sensitive Receptors

- **Lot 15 Site.** The nearest off-campus receptors to Lot 15 are residences approximately 250 to the west on the west side of Veteran Avenue. As shown in Table 4.10-3, the existing daytime noise level adjacent to Veteran Avenue, opposite the Lot 15 site, was measured at 69 dBA L_{eq} (Location 1). At a distance of 250 feet, construction equipment noise levels would be reduced by approximately 14 dBA and the average noise level from an excavator at the west boundary of the Lot 15 site would be reduced from 85 dBA to approximately 71 dBA L_{eq}. The construction noise would be occasionally audible; the average construction noise level would exceed the ambient traffic noise by approximately 2 dBA, which is less than the 10 dBA threshold of significance. This would be a less than significant impact.
- **Warren Hall Site.** The Warren Hall site is surrounded on four sides by multi-story residential housing. Privately-owned apartment buildings facing onto Weyburn Place are located approximately 25 feet from the site. As shown in Table 4.10-3, the existing daytime noise level adjacent to Weyburn Place, adjacent to the Warren Hall site, was measured at 60 dBA L_{eq} (Location 2). This value is representative of the ambient daytime noise level at the nearest sensitive receptors. Construction noise at these receptors would periodically exceed 85 dBA and would exceed the ambient noise level by more than 10 dBA. This would be a potentially significant impact.
- **UNEX Site.** The closest sensitive receptors are multi-story, off-campus residential buildings to the north and northwest, located within 20 feet of the site boundary. Ambient daytime noise levels at these buildings, based on current and previous measurements, are estimated at 67 to 73 dBA L_{eq}. Construction noise at these receptors would periodically exceed 85 dBA and would exceed the ambient noise level by more than 10 dBA. This would be a potentially significant impact.
- **Bradley Site.** The closest off-campus sensitive receptors to the Bradley site are multi-story, privately owned residential buildings located to the southwest across Gayley Avenue. The nearest buildings are located approximately 60 to 70 feet from the Bradley site boundary. The existing daytime noise level adjacent to Gayley Avenue at the Bradley site was measured at 67 dBA L_{eq} (Table 4.10-3, Location 4). Construction noise at the residential receptors would periodically exceed 84 dBA and would exceed the ambient noise level by more than 10 dBA. This would be a potentially significant impact.
- **Drake Stadium Site.** The closest off-campus sensitive receptors are single-family residences approximately 250 feet to the northeast adjacent to the north side of Sunset Boulevard. The average daytime traffic noise level at these residences is estimated to be similar to the 76 dBA L_{eq} measured on the south side of Sunset Boulevard (Table 4.10-3, location 5). At a distance of 250 feet, construction equipment noise levels would be reduced by approximately 14 dBA and the average noise level from an excavator at the north boundary of the Drake Stadium site would be reduced from 85 dBA to approximately 71 dBA L_{eq} at the residences. The construction noise may be occasionally audible, but average construction noise levels would not exceed the traffic noise levels. The impact would be less than significant.

Summarizing the above analyses, there would be significant temporary construction noise increases at on-campus and adjacent off-campus University-owned sensitive receptors near all five proposed housing sites, and at off-campus residences near the Warren Hall, UNEX, and Bradley sites. Construction noise impacts would be less than significant at off-campus residences nearest to the Lot 15 and Drake Stadium sites.

Feasible noise attenuation would be provided with incorporation of PP 4.9-7(b) (muffling or shielding of construction equipment); PP 4.9-7(c) (stationary construction equipment located to direct noise away from sensitive receptors); and MM 4.9-7, which requires the installation of noise barriers. It should be noted that, if it is feasible to install temporary noise barriers in accordance with MM 4.9-7, the barriers would be effective only where they break the line of sight between noise sources and receptors. As described in Section 4.10.1, the nearest sensitive receptors to each housing site are multi-story buildings. It would likely not be feasible to install barriers to reduce noise to the higher floors on adjacent buildings (on campus and off campus). To further reduce noise levels, additional Project-level MM NSE-1, which requires mufflers with increased noise attenuation, is incorporated into each of the proposed housing projects. Even with the March 2009 LRDP Amendment Final EIR and additional Project-specific noise attenuation measures, construction activities would exceed 10 dBA above the ambient noise level at the nearest residences listed above and would remain a significant impact that would create a temporary annoyance.

The required sewer line upgrades would require construction in existing streets and the equipment may be located within 25 feet of the closest sensitive receptors. Because sewer construction is linear, the loudest noise at any receptor would likely occur two or three times, but not for more than one day each time at any single sensitive receptor. Therefore, although construction noise levels would exceed the ambient noise levels by 10 dBA at certain times, there would not be a significant impact. PP 4.9-7(b) (muffling or shielding of construction equipment) and PP 4.9-7(c) (stationary construction equipment located to direct noise away from sensitive receptors) would be implemented as feasible for the sewer line upgrades and would reduce the construction noise. Construction-noise impacts associated with the sewer line upgrades would be less than significant.

The proposed housing projects also incorporate PP 4.9-7(d) (conduct meetings with on-campus constituents); PP 4.9-8 (conduct meetings with off-campus constituents), and PP 4.9-7(a), which prohibits construction activities from occurring during recognized sleep hours for residents. However, these actions also would not ensure that the construction noise level increase would be less than 10 dBA at all sensitive receptors. Therefore, this temporary impact would be significant and unavoidable at each project site for on-campus and off-campus sensitive receptors. This determination is consistent with the findings of the March 2009 LRDP Amendment Final EIR.

With respect to construction vehicle noise impacts, as previously identified, the most frequent haul truck use would be the concurrent demolition at the Lot 15 and Warren Hall sites and grading at the UNEX site, which would occur during that period. There would be an estimated combined 81 round trips per day for an approximately two-month period. The common truck routes for ~~all three~~ the Warren Hall and UNEX sites would include I-405, Wilshire Boulevard, and Veteran Avenue; the truck route for the UNEX site would also include Gayley Avenue. The truck route for the Lot 15 site would also include I-405 and Wilshire Boulevard to Gayley Avenue. Grading and soil export from the Bradley site, with an estimated 63 round trips per day would occur for an approximate 3-month period in 2023. The truck route would include I-405, Wilshire Boulevard, ~~Veteran Avenue,~~ Gayley Avenue, Strathmore Place, and Charles E. Young Drive West. Along these truck routes, t~~T~~here are residences adjacent to Veteran Avenue and Gayley Avenue. Truck passbys at any receptor would average less than one truck every two minutes. Truck passbys would be audible at adjacent receptors, and the average traffic noise level would increase by approximately 1 to 3

dBA L_{eq} on Veteran Avenue and Gayley Avenue. The increase would be less than the 10 dBA threshold for a significant temporary noise impact.

No mitigation measures would be required for truck noise during construction.

Additional Project-Level Mitigation Measures

MM NSE-1 The campus shall require by Contractor Specifications that, to the extent feasible, construction equipment that would be anticipated to have noise levels exceeding 75 A-weighted decibels (dBA) at 50 feet with standard mufflers be equipped with mufflers with enhanced noise attenuation, commonly identified as "critical grade" or "hospital grade" mufflers.

Level of Significance after Mitigation

Barriers, where feasible, may reduce noise levels by 5 to 10 dBA for receptors whose line of sight to the construction equipment is interrupted by the barrier. However, barrier installation may not be feasible at some sites because of access requirements or topography. Barriers rarely break the line of sight to residential receptors at the second floor or above. Therefore, construction of the proposed housing projects would result in a significant and unavoidable impact related to a substantial temporary or periodic increases in ambient noise levels at on- and off-campus uses above levels existing without the Project.

Threshold 10.5	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
Threshold 10.6	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Implementation of the remaining development allocation under the 2002 LRDP, as amended in March 2009, was determined to have no impact related to noise from public airport operations through the Initial Study process for the March 2009 LRDP Amendment Draft EIR, and this topic was not carried forward for further discussion in the Draft EIR. Consistent with these findings, implementation of the proposed housing projects would not expose people in the Project area (at the proposed housing sites) to excessive noise levels because the UCLA campus is neither within an airport land use plan nor within two miles of a public airport or public use airport.

The analysis of Impact 4.9-10 in Section 4.9, Noise and Vibration, of the March 2009 LRDP Amendment Final EIR concluded that, with implementation of PP 4.9-1 (which requires that interior noise levels for residential uses are less than 45 dBA CNEL), implementation of the remaining development allocation on campus would result in a less than significant impact related to on-campus noise levels generated by helistop operations at the RRUCLAMC.

Helistop Noise

Campus uses are currently exposed to short-term noise levels generated by helicopter operations to and from the RRUCLAMC. These helicopter operations occur approximately twice per day. Implementation of the proposed housing projects would not increase the frequency of helicopter operations. As shown on Figure 4.9-4, Helicopter Noise Contours, of the March 2009 LRDP

Amendment Final EIR, the proposed housing sites are located outside the 65 dBA helicopter noise level contour that defines the area for aircraft noise impacts to noise-sensitive land uses. The helicopter noise levels experienced by residents and staff at the sites would not be excessive. Therefore, consistent with the findings of the March 2009 LRDP Amendment Final EIR, the proposed Project would not expose people in the Project area to excessive noise levels from RRUCLAMC helistop operations.

Additional Project-Level Mitigation Measures

No additional mitigation measures are required.

Level of Significance after Mitigation

There would be a less than significant impact related to exposure of persons to excessive noise levels associated with the RRUCLAMC.

4.10.4 CUMULATIVE IMPACTS

For the purposes of this analysis, development of the related projects provided in Table 4-1, Cumulative Projects, in Section 4.0, Introduction to the Environmental Analysis, and other approved on-campus development projects would be considered to contribute to cumulative noise impacts. Noise, by definition, is a localized phenomenon and diminishes in magnitude as distance from the source increases. Consequently, only projects and growth expected to occur in the immediate area of a project site would likely contribute to cumulative noise impacts (construction and operation).

Cumulative development is not expected to result in the exposure of persons to noise levels in excess of applicable standards. Campus development included as part of the proposed housing projects would be subject to the California Noise Insulation Standards, which require that new hotels, motels, dormitories, apartment houses, and dwellings achieve interior noise levels of 45 dBA CNEL. The proposed housing projects would not increase traffic volumes, and the assessments of vehicle noise generation that would affect interior noise levels are based on a reasonable assumption that cumulative development would not increase traffic noise more than 1 dBA. Therefore, noise-land use compatibility would be achieved under cumulative conditions. This is considered to be a less than significant cumulative impact.

Construction activities at the UNEX site are expected to be initiated in spring 2018 and at the Warren Hall site in summer 2018. Construction on both sites would completed by 2021. These construction activities would occur at the same time as other UCLA construction projects, including the Margan Apartments Redevelopment Project, located between the Warren Hall and UNEX sites. Construction activities for the Margan Apartments were initiated in June 2017 and are estimated to be completed by July 2019. Therefore, receptors in the immediate area may be exposed to construction noise from both the UNEX and Margan Apartments sites, and ultimately from the UNEX, Warren Hall, and Margan Apartments sites. It is noted that, by spring 2018, the Margan Apartments construction would be in the building phase, with less construction noise than during demolition and grading. The construction noise impact of each of these projects would be significant, that is, temporary noise levels would exceed the ambient noise level by 10 dBA or more. Therefore, it is concluded that the cumulative noise impact to receptors in the Warren Hall and UNEX vicinity would be significant. As discussed under Threshold 10.4, feasible noise-reduction measures would be implemented to minimize construction noise impacts, but the impact would not be reduced to a less than significant level. The proposed Project would result in a cumulatively considerable contribution to a cumulative construction-related noise impact.

Construction vibration impacts are very localized, generally within 25 to 50 feet, except when impacts to sensitive instrumentation may occur. Construction activities that could cause notable vibration at the Margan Apartments site would be complete prior to demolition and grading at the Warren Hall and UNEX sites. Concurrent construction could occur for the Warren Hall and UNEX sites, but there are no common receptors within 50 feet of these two sites. With respect to all the proposed housing sites, nearby off-campus construction could utilize explosives or pile driving concurrently with on-campus construction; these are the most intensive ground-shaking activities associated with construction. However, because vibration decreases substantially with distance, groundborne vibration caused by construction of the proposed housing projects would not contribute to any cumulatively excessive groundborne vibration on or off campus. Therefore, there would be no cumulative construction vibration impact.

With regard to cumulative groundborne vibration due to operations, it is not expected that growth in the immediate campus area would lead to a cumulatively significant impact. The Westwood area is a mixture of residential, retail, and commercial land uses, and no industrial land uses are allowed. These land uses would not result in excessive groundborne vibration and, consequently, a cumulatively significant impact in this area would not occur. Because background operational vibration levels under the proposed housing projects are expected to be about 50 VdB, which is well below the sensitivity threshold for even sensitive scientific equipment, the Project contribution would be minimal. This is considered to be a less than significant impact.

The cumulative impacts analysis in Section 4.9, Noise, of the March 2009 LRDP Amendment Final EIR concluded that buildout of development analyzed in the 2002 LRDP, as amended in March 2009, would result in less than significant impacts related to cumulative roadway (traffic) noise impacts. As described in Threshold 10.3 of this Draft SEIR, there would be a net decrease in average daily vehicle trips, and there would be no discernible change in noise levels from traffic on off-campus or on-campus roadways. Therefore the proposed housing project would not result in a cumulatively considerable contribution with respect to traffic-generated noise.

With regard to stationary sources, as described in Threshold 10.3, there would be new noise sources, including HVAC units and emergency generators, at the Lot 15, Bradley, and Drake Stadium sites. There are existing stationary noise sources at the Warren Hall and UNEX sites that would be replaced by newer equipment. PP 4.9-6(a) requires that all new stationary sources of noise be shielded from nearby noise-sensitive uses and the analysis under Threshold 10.3 shows that noise increases from HVAC units would be well below the 5 dBA threshold. Therefore, stationary source noise resulting from the proposed housing projects would not be cumulatively considerable.

Implementation of the proposed Project would not increase the noise generated by helicopter flights to and from the helipads at the RRUCLAMC. Therefore, the proposed Project would not contribute to a cumulative aircraft noise impact. The impact would be less than significant.

4.10.5 REFERENCES

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4.11 POPULATION AND HOUSING

This section summarizes existing and forecasted population and housing in the City and County of Los Angeles. This section also presents the existing and projected campus population information. Data used in preparing this section was derived primarily from the Southern California Association of Governments' (SCAG) 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and associated Regional Growth Forecasts (SCAG 2016), information compiled by the University of California, Los Angeles (UCLA), and other sources as cited in this section and listed in Section 4.11.6, References.

Relevant elements of the proposed Project related to population and housing include the development of undergraduate and graduate student housing with up to 6,900 beds at 5 sites on campus. It is estimated that 1,962 of these beds would be occupied by current students living on campus in triple rooms designed for 2 beds. No increase in student enrollment at UCLA beyond that already anticipated would result from the proposed Project. The proposed Project would generate approximately 145 new staff positions on campus consisting of maintenance, grounds, custodial, administrative, residential life, and dining.

One Notice of Preparation (NOP) comment letter addressed the increase in the full-time resident student population and identified that potential impacts from this increase (e.g., impacts to air quality, traffic, public services, etc.) should be addressed. This section of the Draft Subsequent Environmental Impact Report (SEIR) addresses the change in residential and staff population; other topical issues are addressed in the respective sections of this Draft SEIR.

4.11.1 ENVIRONMENTAL SETTING

Section 4.10, Population and Housing, of the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR) provides information regarding population and housing at UCLA and in the City of Los Angeles as applicable at the time the LRDP Final EIR was prepared. Updated campus, local, and regional population information is provided below.

Existing and Projected Population and Employment

City of Los Angeles Subregion and City of Los Angeles

Regional and local demographic data provided in the March 2009 LRDP Amendment Final EIR (i.e., population and housing) was based on the SCAG data used as the basis of the 2008 RTP, as it was the most recent and relevant data set available at that time. It should be noted that SCAG prepared the 2012 RTP/SCS to supersede the 2008 RTP; the 2012 RTP/SCS was adopted in April 2012. In addition to meeting federal and State transportation planning requirements, the 2012 RTP/SCS included a chapter that complies with California's Senate Bill (SB) 375 mandate for a regional SCS. Per SB 375, the RTP/SCS must coordinate transportation and land use planning in a manner that results in greenhouse gas (GHG) emission reductions sufficient to meet 2020 and 2035 targets set by the California Air Resources Board (CARB). Subsequently, the SCAG Regional Council adopted the 2016–2040 RTP/SCS and accompanying Program EIR (PEIR) on April 7, 2016. The 2016–2040 RTP/SCS seeks to improve mobility, promote sustainability, facilitate economic development and preserve the quality of life for the residents in the region.

The SCAG RTP/SCS depends on an accurate and credible forecast for future growth in population, housing, and employment. The integrated growth forecast at the regional and small geographic area level is the basis for developing the RTP/SCS. In developing regional growth forecasts, SCAG coordinates extensively with Counties and Cities to gain local input

on the integrated population, household, and employment growth forecast. The demographic and growth forecasts provided in the 2016–2040 RTC/SCS are the currently adopted population, housing, and employment forecasts for the six-county region, including Los Angeles County. SCAG's 2016–2040 regional growth forecasts for the City of Los Angeles and Los Angeles County for population and employment are shown in Table 4.11-1.

TABLE 4.11-1
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS 2016
REGIONAL GROWTH FORECASTS FOR THE
CITY OF LOS ANGELES AND LOS ANGELES COUNTY

	Year			Change 2015–2040	
	2010	2015	2040	Growth	Percent
Population					
City of Los Angeles	3,792,621[a]	3,972,348[a]	4,609,400	637,052	16.0
Los Angeles County	9,827,000	10,159,000	11,514,000	1,355,000	13.3
Employment					
City of Los Angeles	1,696,400[b]	1,867,900[c]	2,169,100	301,200	16.1
Los Angeles County	4,140,000	4,463,000	5,226,000	763,000	17.1

[a] DOF 2017.
[b] 2012 employment estimate presented in the 2016–2040 RTP/SCS (SCAG 2016).
[c] EDD 2016.
Source (all information, unless stated otherwise): SCAG 2016.

As shown in Table 4.11-1, the SCAG growth forecasts indicate that Los Angeles County had a total population of approximately 10,159,000 individuals in 2015. By 2040, SCAG forecasts that the County's total population will reach about 11,514,000 individuals, a growth of approximately 13.3 percent. The City of Los Angeles had a total population of approximately 3,972,348 individuals in 2015, and SCAG forecasts that the City's total population will reach approximately 4,609,400 by 2040, a growth of approximately 16.0 percent. The employment growth in the County and the City is also expected to increase by 16.1 and 17.1 percent, respectively, during the same time frame.

UCLA Campus

The on-campus population, or the number of individuals either enrolled, employed, or visiting the campus (represented by head count), consists of students, academic employees, staff employees, and other individuals (e.g., visitors). Students make up the largest head count group, followed by staff and academic employees. The on-campus student population includes total general campus and health science enrollment and excludes off-campus health science students, students studying abroad, and students in self-supporting evening programs. Staff and academic employees who work at off-campus locations or outside normal business hours are also excluded from the on-campus population.

On-campus population figures are adjusted to reflect the fact that all students, faculty, and staff who may be on campus at some time will not be on campus simultaneously on any given day. This is because weekday attendance patterns for students and employees vary due to class and teaching schedules, vacations, sick leave, and absences from campus for travel, among other reasons, and other less than full-time work or study schedules. Due to these variations, the number of enrolled students and employed individuals on campus on any given weekday is less than the total number of people enrolled and employed. The average three-quarter weekday population adjusts the total on-campus population to represent the average number of people (students and employees) physically on campus on any given weekday.

While the campus operates 365 days a year, the academic calendar consists of the regular session (fall, winter, and spring 3-quarter average) and summer session (12 weeks). The average weekday population during the 12-week summer session is typically between 60 and 65 percent of the average weekday population during the regular session. Therefore, for purposes of analysis in this EIR, the regular session population is used as the basis for the impact analysis.

The March 2009 LRDP Amendment Final EIR (Table 4.10-4) projected population for students, employees, and visitors out to 2013–2014. The projections were solely for the purpose of conducting impact analyses in the LRDP Final EIR. Subsequently, the UCLA Geffen Academy Final EIR identified the new campus population baseline condition; it analyzed (1) the increase in population associated with operation of the Geffen Academy and (2) the University of California (UC) system-wide enrollment increases approved by the UC President and The Regents in November 2015 (UCLA 2016a). The established population projections for 2020 and 2025[1] are presented below in Table 4.11-2.

As shown in Table 4.11-2, for purposes of this Draft SEIR, the campus 3-quarter weekday (regular session) population for fall 2025 is conservatively projected to be 76,390 individuals. It is to be noted that the UCLA campus does not have a population cap and one has never been initiated for the campus over its 98-year history.

TABLE 4.11-2
UCLA ON-CAMPUS POPULATION 2014–2025
3-QUARTER REGULAR SESSION AVERAGE WEEKDAY

	Current Baseline 2014–2015	Fall 2016	Fall 2017	Fall 2020	Fall 2025
Students					
Undergraduate and Graduate[a]	32,944	33,563	33,872	34,181	34,181
Employees					
Academic[b]	5,306	5,452	5,528	5,759	6,090
Staff[c]	17,162	18,018	18,469	19,890	21,956
Other Individuals:					
Visitors[d]	11,820	12,590	12,757	13,270	13,543
Geffen Academy Students[e]	–	–	160	620	620
Total	**67,232**	**69,623**	**70,786**	**73,720**	**76,390**

[a] Starting in fall 2016, the UCLA campus will increase the undergraduate population by 750 students. In fall 2017 and 2018, an additional 375 undergraduate students will be enrolled, per year, for a total increase of 1,500 undergraduate students. This enrollment increase is imbedded in the Student numbers. Students are adjusted for varied class and teaching schedules, vacations, sick leave, absences from campus, and other less than full-time work or study schedules. Also excluded are students in Self-Supporting, Study Abroad, and University of California, Washington, D.C. (UCDC) programs.

[b] Academic Employees exclude student assistants, sabbatical and other leaves, remote academic, and University Extension.

[c] The Geffen Academy Project opens in fall 2017 with 49 new staff members, increasing to 109 staff members by 2020. The 5 proposed housing projects in this LRDP Amendment would generate 145 new staff members. These Project-related staff increases are included in the Staff population numbers. Staff numbers exclude student staff, remote staff, and evening employees.

[d] Other Individuals (a.k.a., Visitors) include, but are not limited to, Medical Center clinical and affiliated faculty, patients, visitors, volunteers, pre-school (Krieger) and University Elementary School (UES) children, vendors, contractors, Luskin Conference and Guest Center guests and conferees, and construction workers.

[e] The Geffen Academy is proposed to add 160 students in fall 2017 in grades 6 and 9. By 2020, the Academy would have a full enrollment of grades 6 through 12 and a total student population of 620 students.

[1] Year 2025 is used because it is the anticipated buildout year for the proposed housing projects.

While the information for on campus population is based on student enrollment, for purposes of the proposed housing project, it is important to note that UCLA currently accommodates approximately 14,300 undergraduate students (approximately 46 percent of the undergraduate population) in on-campus housing and University-owned apartments within 1-mile of the campus. The campus also provides housing to more than 5,500 graduate students, faculty and staff, and their families. Approximately 3,400 graduate students (24 percent of the graduate population) currently live on campus or in off-campus University-owned housing.

4.11.2 REGULATORY FRAMEWORK

Section 4.10 of the March 2009 LRDP Amendment Final EIR provides a complete discussion of the regulatory framework for population and housing relevant to development on campus. The following discussion focuses on the regulatory information that was presented in the LRDP Final EIR and which is particularly relevant to the proposed Project. This information has been updated, as appropriate.

State of California

California Education Code

The University of California Master Plan for Higher Education provides enrollment goals for new and transfer students. The *California Education Code* contains several provisions mandating enrollment access levels. Section 66202.5 of the Education Code states the following:

> The State of California reaffirms its historic commitment to ensure adequate resources to support enrollment growth, within the systemwide academic and individual campus plans to accommodate eligible California freshmen applicants and eligible California Community College transfer students, as specified in Sections 66202 and 66730.
>
> The University of California and the California State University are expected to plan that adequate spaces are available to accommodate all California resident students who are eligible and likely to apply to attend an appropriate place within the system. The State of California likewise reaffirms its historic commitment to ensure that resources are provided to make this expansion possible, and shall commit resources to ensure that students from enrollment categories designated in subdivision (a) of Section 66202 are accommodated in a place within the system.

Similarly, Section 66011(a) of the *California Education Code* provides that all resident applicants to California institutions of public higher education, who are determined to be qualified by law or by admission standards established by the respective governing boards, should be admitted to either (1) a district of the California Community Colleges, in accordance with Section 76000; (2) the California State University; or (3) the University of California.

Section 66741 of the *California Education Code* requires acceptance of qualified transfer students at the advanced standing level.

California Public Resources Code

Under Section 21080.9(b) of the *California Public Resources Code*, the environmental effects relating to changes in enrollment are to be considered for each campus or medical center of public higher education in the EIR prepared for the LRDP.

California Public Resources Code Section 21080.09(d) states the following:

> Compliance with this section satisfies the obligations of public higher education pursuant to this division to consider the environmental impact of academic and enrollment plans as they affect campuses or medical centers, provided that any such plans shall become effective for a campus or medical center only after the environmental effects of those plans have been analyzed as required by this division in a long range development plan environmental impact report or tiered analysis based upon that environmental impact report for that campus or medical center, and addressed as required by this division.

University of California 2016–2017 Operating Budget/Enrollment Plan

On November 19, 2015, the University of California (UC) Board of Regents approved a Budget Plan to enroll an additional 10,000 California undergraduates over the next 3 years, including 5,000 freshman and transfer students in the 2016–2017 academic year. Under this plan, all nine UC campuses that educate undergraduates will enroll more California students. The increase in enrollment reflects an agreement made with State lawmakers that provides the UC with the fiscal stability it needs to expand access and also to make needed investments in academic excellence. As part of that financial plan, tuition will remain at current levels in 2017 (McMillan 2015).

4.11.3 PROJECT IMPACTS

Methods

The following analysis addresses (1) population and employment growth that could occur with implementation of the proposed Project and (2) whether this growth is considered substantial in relation to campus, local, and regional forecasts.

Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, a project will normally have a significant adverse environmental impact related to population and housing if it will:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 LRDP Amendment Final EIR

There were no Programs, Practices, and Procedures (PPs) or Mitigation Measures (MMs) related to population and housing adopted as part of the March 2009 LRDP Amendment Final EIR.

Impact Analysis

Threshold 11.1	Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The analysis of Impact 4.10-1 in Section 4.10, Population and Housing, of the March 2009 LRDP Amendment Final EIR determined that implementation of the remaining development allocation contemplated by the 2002 LRDP, as amended in March 2009, would not result in substantial population growth, either directly or indirectly (i.e., through job creation).

As further described in Section 3.1, Background and Need for the Project, of this Draft SEIR, the proposed student housing projects are intended to address the current and projected future unmet demand for housing on campus. Among other factors, this demand is generated by University of California (UC) system-wide enrollment increases approved by the UC President and The Regents in November 2015, and UCLA's commitment to meeting housing goals established in the *Student Housing Master Plan 2016–2026* (2016–2026 SHMP; UCLA 2016b). With respect to required enrollment increases, UCLA began enrolling 750 more undergraduate students in fall 2016 as part of the University's commitment to enroll more California residents through fall 2020. In fall 2017 and 2018, an additional 375 undergraduate students will be enrolled, per year, for a total increase of 1,500 undergraduate students. The housing goals established in the 2016–2026 SHMP include the following:

- University housing will be guaranteed to all entering first-year students for a period of four years.
- University housing will be guaranteed to all new transfer students for a period of two years.
- University housing will be guaranteed to new graduate and professional students for a period of two years. University housing will be guaranteed to new graduate and professional student families with dependent children for as long as the student is making normal progress to degree conferment for up to seven years.

Therefore, the proposed housing projects would not increase the total student enrollment at UCLA; anticipated student enrollment, as previously analyzed, is presented in Table 4.11-2 above. There would not be an associated increase in the on campus average weekday student population. However, the proposed project would increase the number of on-campus student residents compared to existing conditions. Table 4.11-3 presents the anticipated breakdown of student residents.

TABLE 4.11-3
ANTICIPATED STUDENT RESIDENT POPULATION

	Lot 15 Site	Warren Hall Site	UNEX Site	Bradley Site	Drake Stadium Site	Total
New Students	1,050	0	0	100	400	**1,550**
Current Students Living on Campus in Triple Bed Rooms Designed for Two Beds (Detripling)	300	462	600	400	200	**1,962**
Students Coming Back (4th year/2nd Year Transfer Students)	200	1,000	550	50	100	**1,900**
Transfer Students	250	400	200	50	100	**1,000**
Graduate Students	0	488	0	0	0	**488**
Total	**1,800**	**2,350**	**1,350**	**600**	**800**	**6,900**

As shown, there would be up to 6,900 new beds on campus at full buildout of the proposed student housing (anticipated in 2025).[2] It is estimated that 1,962 of these would be occupied by current students living on campus in triple rooms designed for two beds. The remaining 4,938 student beds would be occupied by students not currently living on campus or students that currently live on campus but would not be able to continue to living on campus (new students, returning student residents, transfer students, and graduate students). With the provision of approximately 6,412 undergraduate beds, there would be an approximate 45 percent increase in the number of undergraduate students living in University-owned housing (on campus and within 1 mile). There would also be an approximate 14 percent increase in University-owned graduate student housing. The potential impacts associated with an increase in the on-campus student resident population are addressed in the respective sections of this Draft SEIR (e.g., 4.10, Noise; 4.12, Public Services and Recreation; and 4.13, Transportation/Traffic).

With respect to employment generation, it is estimated that the proposed housing projects would generate approximately 145 new staff positions on campus. These positions include approximately 23 maintenance, 4 grounds, 56 custodial, 5 administrative, 10 residential life, and 47 dining positions. It should be noted that 45 dining positions would occur at the Bradley site, the only housing project proposed to include new dining facilities. While there would be 145 new staff positions, it is important to note that many of these positions (notably dining and custodial) occur in shifts, and these individuals would not all be on campus at the same time.

Based on the direct-to-indirect employment impact ratio of 0.68 in the March 2009 LRDP Amendment Final EIR, the estimated 145 new staff positions associated with the proposed housing projects would be expected to generate 99 indirect jobs, for a total employment generation of up to 244 jobs through the year 2025. This is a negligible increase in new jobs when compared to the total existing and projected jobs in the County or even the City of Los Angeles, as shown in Table 4.11-1.

The existing unemployment rate in Los Angeles County is 4.0 percent (EDD 2017a). The unemployment rate for the Los Angeles, Long Beach, Glendale Metropolitan Division (civilian labor force) is also 4.0 percent (EDD 2017b). Therefore, it is expected that qualified area residents would fill the vast majority of additional staff positions. Accordingly, it is anticipated that most new

[2] It is estimated that approximately 4,500 beds would be available between fall 2021 and fall 2022.

staff positions would be filled by persons already residing in the area and would not result in population growth locally or regionally. This impact is less than significant.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would have a less than significant impact related to inducement of substantial population growth in an area either directly or indirectly.

Threshold 11.2	Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
Threshold 11.3	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The Initial Study for the March 2009 LRDP Amendment Draft EIR concluded that implementation of the remaining development allocation under the 2002 LRDP, as amended in March 2009, would have no impact related to the displacement of people or housing necessitating the need for construction of replacement housing.

The Lot 15, Warren Hall, UNEX, Bradley and Drake Stadium sites do not currently accommodate housing or other overnight accommodations. Therefore, as previously analyzed and concluded in the LRDP Final EIR, the proposed housing projects would not result in any displacement of housing that and would not necessitate the construction of replacement housing elsewhere. There would be no impact and no mitigation is required. No further evaluation of this issue is required in the Draft SEIR.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would have no impacts related to (1) displacement of substantial numbers of existing housing that would necessitate the construction of replacement housing and (2) displacement of substantial numbers of people that would necessitate the construction of replacement housing.

4.11.4 CUMULATIVE IMPACTS

SCAG's six-county region is the geographic context for the analysis of cumulative population and housing impacts and is based on the use of the regional growth forecasts provided by SCAG in the SCAG 2016–2040 RTP/SCS, which includes growth anticipated to occur in Los Angeles County, including development of the cumulative projects provided in Table 4-1, City of Los Angeles Cumulative Projects, in Section 4.0, Introduction to the Environmental Analysis, of this Draft SEIR.

Implementation of cumulative development in the City of Los Angeles and Los Angeles County would lead to increases in population, housing, and employment; however, the proposed housing projects would only contribute to an increase in employment. Projected growth (population and

employment) in the City of Los Angeles and the County of Los Angeles is shown in Table 4.11-1, and projected growth at the UCLA campus is shown in Table 4.11-2. As shown in Table 4.11-2, UCLA is expected to experience growth on campus without the proposed housing projects. By fall 2025, it is projected that there would be an increase in the 3-quarter weekday (regular session) on-campus population of approximately 9,158 individuals compared to 2014–2015 baseline conditions. This increase includes 1,237 students, 5,578 employees (academic and staff), and 2,343 other individuals.

As discussed above, the proposed housing projects would not directly induce population growth in the area. However, new staff employment opportunities would be generated and could generate an increased population of approximately 244 persons (direct and indirect). This growth represents a nominal increment (less than 0.04 percent) compared to growth expected in the City of Los Angeles between 2005 and 2040. Moreover, as discussed previously, due to the existing unemployment rate and the nature of many of the new employment positions that would be created by the proposed housing projects, it is expected that many of the new employees would be drawn from current residents of the City of Los Angeles, and, to a lesser degree, the six-county SCAG region. As a result, the contribution of the proposed housing projects to regional cumulative population growth would not be cumulatively considerable and would be less than significant.

The proposed housing projects would not contribute to a cumulative loss of housing that would require replacement housing elsewhere.

4.11.5 REFERENCES

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4.12 PUBLIC SERVICES AND RECREATION

This section evaluates the potential effects on public services (police, fire protection, and schools), parks and other recreational facilities, library services, or other public services related to implementation of the proposed Project. Data used to prepare this section was taken from various sources, including previous environmental documentation prepared for the campus and other sources as cited in this section and listed in Section 4.12.6, References.

Relevant elements of the proposed Project related to public services and recreation include the construction of approximately 1.5 million gross square feet (gsf) of student housing at 5 sites on campus that would accommodate up to 6,900 beds for undergraduate and graduate students. The proposed Project would not increase the student enrollment at University of California, Los Angeles (UCLA); therefore, while there would be an increase in the on-campus resident population, there would not be an increase in the on-campus student population. The proposed Project would add approximately 145 new staff positions.

Two Notice of Preparation (NOP) comments were received regarding public services and recreation. The comments identify that potential impacts to community facilities, public services and resources, and recreation/open space resulting from the increase in on campus residents should be addressed.

4.12.1 ENVIRONMENTAL SETTING

Section 4.11, Public Services, and Section 4.12, Recreation, of the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR) provide information regarding public services and recreation at UCLA and in the City of Los Angeles, as applicable at the time the LRDP Final EIR was prepared. The following discussion focuses on environmental setting information presented in the LRDP Final EIR that has been updated since March 2009 and/or is particularly relevant to the proposed Project.

Fire Protection

Los Angeles City Fire Department

The Los Angeles City Fire Department (LAFD) provides fire suppression and rescue operations for the UCLA campus. Fire alarm calls on campus are received by University of California Police Department (UCPD) command center staff members who screen calls, determine the call location, and then alert the LAFD.

Fire Station Nos. 71 and 37 have primary responsibility for a first alarm call to the campus. In cases where there is a need for backup support, additional LAFD fire stations would provide the necessary assistance. Fire Station No. 71 is located at 107 South Beverly Glen Boulevard, with the driving distance to the project sites ranging from approximately 1.1 miles to the Drake Stadium site and approximately 2.1 miles to the Warren Hall site. Fire Station No. 37 is located at 1090 Veteran Avenue in the Southwest zone with the driving distance to the project sites ranging from approximately 0.4 mile to the Warren Hall site and approximately 1.4 miles to the Lot 15 site.

Fire Station No. 37, a task force unit that responds to the majority of emergency calls to the campus, includes a truck and two engines, Basic Life Support (BLS, for evening hours only) and Advanced Life Support (ALS, staffed 24/7) ambulances, and a Fire Chief command car. The station is staffed daily by 15 sworn fire personnel, including 3 paramedics and 1 member of the battalion command team. Initial response times on a citywide basis meet the goal of 5 minutes or less 90 percent of the time (McKnight 2016).

In addition to LAFD paramedics, UCLA paramedics and ambulances from the RRUCLAMC respond to a number of emergency calls both on and off campus (UCLA 2009).

UCLA Fire

Fire prevention programs, practices, and procedures for the campus are managed by the Environment, Health, and Safety (EH&S) Fire Protection Section (UCLA Fire). UCLA Fire conducts various activities that are typically conducted by the LAFD for development in the City. UCLA Fire mitigates threats and hazards to the University through a variety of interactions with on- and off-campus constituents, prepares the public to manage an emergency, responds to calls for fire service, partners with stakeholders in recovering from emergencies and disasters, and investigates all incidents that occur on campus. UCLA Fire manages the following activities for the UCLA campus:

- **Title 24 and Title 19 Inspections.** One of UCLA Fire's primary responsibilities is to assist in enforcing State building codes and regulations, which involve reviewing all plans for new construction and renovation, as well as conducting annual inspections of existing campus buildings, specifically, to conduct Title 24 and Title 19 inspections. Title 24 is published by the California Building Standards Commission and it applies to all building occupancies (see *Health and Safety Code,* Sections 18908 and 18938) throughout the State of California. Among other items, the provisions of the California Building Standards Code in (Title 24 of the *California Code of Regulations* [CCR]) includes requirements for the design and construction of a building's fire and life safety features and accessibility.

  Title 19 of the CCR, Public Safety, establishes minimum standards for the prevention of fire and for the protection of life and property against fire, explosion, and panic. UCLA Fire conducts inspections of campus buildings to determine compliance with Title 19. During the inspection process, the status and condition of a number of items is observed and evaluated for compliance. Some of these items may require immediate correction or, if appropriate, may be given a reasonable amount of time for correction and/or repair.

- **Fire Protection Inspection.** UCLA Fire conducts inspections of new or renovated buildings for the following fire protections systems: underground and overhead pipe testing, fire alarm systems, fire assemblies, emergency generators, and elevator occupancy and final inspection. Buildings can only be occupied with the approval of UCLA Fire.

- **Special Events Permits.** Permits provide UCLA Fire with information on what, where, when, and how an event will take place and allows the fire official to review and approve devices, safeguards, and procedures that may be needed to ensure a safe event. The California Fire Code requires the issuance of a Fire Permit prior to engaging in any of the following: carnivals and fairs; filming for motion pictures and television; parade floats; public assembly; pyrotechnic special effects; or installation of tents, canopies, or membrane structures.

- **Other.** Other activities conducted by UCLA Fire include mandatory evacuation drills, brush clearance mitigation, fire investigation (cause and origin), and training UCLA staff and building coordinators on emergency procedures and safety techniques.

It should also be noted that, in October 2015, UCLA and LAFD Battalion No. 9 agreed to reduce unnecessary first response from Fire Station No. 37 to UCLA false fire alarms. False alarms (called Code-8) are an ongoing issue for the campus, where an individual pulls a manually accessible fire alarm for prank or intended disruption of scheduled activities within an existing building. Also in the category of a Code-8 are alarms set off by burnt food (e.g., toast or popcorn) or worker activity. During the 2016 calendar year, 504 Code-8 calls were recorded by the UCLA

Police command center (compared to 489 calls in 2015); of those 489 calls, the following responses by UCLA and LAFD were recorded (Herrera 2017):

- Total Code-8 alarms that both UCLA FIRE-1 and LAFD were dispatched to the alarm call: 5 (compared to 145 in 2015).
- Total Code-8 alarms that only UCLA FIRE-1 was dispatched to the alarm call: 305 (compared to 151 in 2015).
- Total Code-8 alarms that only LAFD was dispatched to the alarm call: (194 compared to 193 in 2015).

The purpose of the agreement is to alleviate LAFD from unnecessary use of manpower and equipment for on-campus Code-8 calls. The agreement was developed between UCLA Fire Marshal Dana Johnson and LAFD Battalion 9 Chief Antoine McKnight. Through this agreement, UCLA will take responsibility as first responder to all UCLA fire alarm calls. Upon assessment of the situation, they will request that Fire Station No. 37 respond only for real fire situations. Based on the comparison of call data for 2015 and 2016, the number of Code-8 calls that LAFD responded to decreased from 338 calls to 199 calls.

Police Protection

University of California

University of California Police Department

As with other University campuses, the University of California Police Department (UCPD) has primary responsibility for the campus and all off-campus properties owned and operated by UCLA. According to Section 92600 of the *California Education Code,* the UCPD has concurrent jurisdiction with the Los Angeles Police Department (LAPD) within a one-mile radius of University-owned property. The UCPD is often the first responder at properties around the campus and may take primary responsibility for student-oriented events off campus. The UCPD station is located on campus, at the northwestern corner of the intersection of Charles E. Young Drive South and Westwood Plaza (601 Westwood Plaza), with the driving distance to the project sites ranging from approximately 0.3 mile to the Bradley site and approximately 0.8 mile to the Lot 15 site.

The UCPD are duly sworn police officers under Section 830.2(b) of the *California Penal Code,* and its jurisdictional responsibilities are articulated in the aforementioned section of the *California Education Code.* UCPD personnel are used in crime prevention, investigations, and administration (UCLA 2009). In addition, UCPD personnel are instrumental in providing training to staff and faculty on leadership in emergency situations, observation tactics, active shooter scenarios, and use of safety equipment and technology. All sworn officers are available on an on-call basis to respond in emergency situations. On a part-time basis, students are employed as Community Service Officers (CSOs) to provide escort services, equipment security services, and patrol assistance. Staffing levels are currently considered acceptable with approximately 64 sworn officers, 20 Emergency Medical Technicians (EMTs) that operate the campus 911 ambulance response, 8 full-time guards, and 72 students employed as CSOs (Greenstein 2016; Parga 2016). The campus evaluates police protection needs on an ongoing basis and considers the need to augment UCPD and CSO staffing levels as institutional priorities.

According to the Campus Security Policy and Crime Statistics Report (prepared pursuant to the Jeanne Cleary Disclosure of Campus Security Policy and Campus Crime Statistics Act), there were a total of 704 reported offenses on campus in 2015, which represents a slight decrease from the 746 incidents reported in 2014. These totals include all on-campus property offenses, non-

campus UCLA-affiliated offenses, and offenses on public property within or immediately adjacent to UCLA. Of these totals, 521 offenses occurred within on-campus residential properties in 2015; this is similar to the number offenses within on-campus residential properties in 2014 (517 offenses) (UCPD 2016). The majority of these crimes were liquor law and drug law violations.

In the LAPD West Los Angeles Area, the predominant crimes in 2016 were personal/other theft, theft from vehicles, burglaries, and vehicle theft (LAPD 2017).

The UCPD and LAPD have concurrent jurisdiction for providing police protection to the neighborhoods adjacent to the campus. While LAPD officers do not patrol the UCLA campus, the LAPD will provide assistance in homicide investigations, bomb disposals, and large demonstrations. The campus has Memoranda of Understanding (MOUs) with the Santa Monica Police Department, the California Highway Patrol, and the LAPD.

Health and Safety Programs

Services Addressing Residential Uses/Alcohol Use

As a University in a dense urban environment, the UCLA campus is adjacent to multi- and single-family residential neighborhoods to the north, west, and east of the main campus. These neighborhoods are typically non-student/non-University owned residences. However, the off-campus area commonly known as North Westwood Village is predominantly made up of non-University owned multi-family residential units (i.e., apartments) with a large segment of the population comprised of UCLA students and Greek fraternities. Weekend nights (Thursday through Saturday) in this area are popular nights for social events (including events with alcohol). To ensure the safety of this residential population, a lead UCPD officer is assigned to fraternities and the residential neighborhood to provide presentations and outreach and to develop a strong presence in the area. The lead UCPD officer also creates relationships with the fraternity officers.

In general, UCPD receives and responds to calls concerning “loud noise”, which can be parties or groups (on or off campus) engaged in social activities outside a particular residential property. Officers in almost all situations are dispatched to respond to the complaints, official or anonymous. Once on scene, the UCPD officers request that the noise be lowered and typically get cooperation. If the group is non-cooperative, the social activity/party may be shut down. In order to ensure the safety of the students and community members, UCPD educates and enforces programs to minimize issues related to alcohol. The UCPD has established the following programs for UCLA students, both on the campus and off the campus: Zero Tolerance Program, Party Notification, Neighborhood Nuisance Abatement, and programs to avoid disruptive behaviors associated with the traditional Midnight Yell. These programs are further described in the March 2009 LRDP Amendment Final EIR.

In addition to the UCPD programs in place to minimize issues related to noise and other conflicts between students and the communities adjacent to the main campus, the University has a number of programs that focus on alcohol harm reduction and prevention. Harm reduction is an approach to regulating or modifying behavior related to alcohol use by reducing or eliminating harm that may be caused by an individual upon themselves or those who come into contact with said individual. In an effort to apply the harm-reduction philosophy to the UCLA community, various alcohol programs are offered and coordinated by several organizations on campus.

UCLA Regulations

Several policies have been developed regarding the regulation and consumption of alcohol and use of controlled substances/illegal drugs by the UCLA students. For the campus as a whole, the

Student Conduct Code addresses many topics including alcohol and drug use and the standards of conduct expected by the University and disciplinary actions for misconduct. For students who live on or off campus in University housing, two sets of regulations are in place: *UCLA On Campus Housing Regulations* and *UCLA University Apartment Regulations & Policies* (UCLA 2017a, 2017c). These regulations address issues concerning conduct within the residence halls and the University-owned apartments and include, but are not limited to, policies and rules related to possession and consumption of alcohol and controlled substances/illegal drugs.

Los Angeles Police Department

The LAPD has the primary responsibility for providing police protection to the neighborhoods adjacent to the campus. While officers from the LAPD do not patrol the UCLA campus, the LAPD will provide assistance in homicide investigations, bomb disposals, and large demonstrations. The campus has mutual aid agreements with the Santa Monica Police Department and the California Highway Patrol, and maintains a Memorandum of Understanding (MOU) with the LAPD (UCLA 2009).

The campus is located within the LAPD's West Los Angeles Area and is served by a station located at 1663 Butler Avenue, approximately one mile from the southern part of campus. The West Los Angeles Area encompasses 64 square miles and is bound by the Los Angeles City boundary to the west; Mulholland Drive to the north; La Cienega Boulevard to the east; and the Santa Monica Freeway, Los Angeles City boundary, and Pacific Coast Highway to the south.

Schools

University of California, Los Angeles Early Education, Elementary, and College Preparatory Schools

UCLA currently operates two early care and education centers and the UCLA Lab School (Lab School, also known as the Corinne A. Seeds University Elementary School) on campus. In support of the teaching, research, and community service mission of the University, the UCLA Early Care and Education (ECE) programs provide full-time, year-round child care to children ages 2 months to 6 years for UCLA students, staff, and faculty.

The Lab School is located at 330 Charles E. Young Drive, south of the Fernald Child Development Center in the Core zone. The Lab School enrolls approximately 450 students, ages 4 through 12, and is part of UCLA's Graduate School of Education and Information Studies; approximately 25 percent of the students have a parent affiliated with UCLA (Lab School 2017).

The on-campus ECE centers include the Krieger Center located in the Northwest zone, south of Sunset Boulevard and east of Veteran Avenue, and the Fernald Child Development Center located in the northern portion of the Core zone, south of Sunset Boulevard. The Krieger Center accommodates approximately 160 children of faculty, staff, and students in 9 classrooms (4 infant and 5 preschool). The Fernald Center is used primarily for faculty recruitment and retention with an average of 85 percent faculty families and 15 percent staff families; there are currently no student families at the Fernald Center. Families currently unaffiliated with UCLA and members of the community at large may enroll at the University Village Center, which is located off campus (UCLA 2017d).

The Geffen Academy at UCLA, an on-campus college preparatory school for 6th through 12th grade students, will open in the fall 2017 for school year 2017–2018 with 6th, 7th, and 9th grade classes totaling approximately 160 students, followed by an enrollment increase up to a maximum of 620 students in grades 6 through 12 by the 2020–2021 school year. The Geffen Academy is

located in the Southwest zone in the Kinross Building (11000 Kinross Avenue). A maximum of 50 percent of the students would come from UCLA staff and faculty families and the remainder would come from the larger Los Angeles community.

Public School Districts

There are multiple school districts in the geographic area where students of UCLA staff reside. However, the Los Angeles Unified School District (LAUSD) is by far the largest. The LAUSD encompasses 710 square miles and serves a population of approximately 4.8 million individuals with 1,302 schools, including elementary, middle, and high schools; public charter schools; magnet schools; and multiple other educational facilities (LAUSD 2016). During the 2016-2017 academic year, it employed 26,556 teachers and had a total K-12 enrollment of 664,774 students, including students enrolled in alternative and adult educational programs, occupational and skills centers, and children's centers (LAUSD 2016). Any demand for K–12 public education facilities that is generated by the UCLA campus population is associated primarily with married student, faculty, and staff households. Based upon the residential patterns of campus faculty and staff provided in the March 2009 LRDP Amendment Final EIR, the schools that would accept the largest relative proportion of the K–12 public educational needs of the UCLA campus population are located in the University, Hamilton, Fairfax, Venice, Pacific Palisades (charter school), and Westchester Senior High School attendance areas of the Westside. For purposes of analysis in this Draft SEIR, it is assumed these residential patterns have not changed appreciably since preparation the March 2009 LRDP Amendment Final EIR.

Within the 6 high school attendance areas serving UCLA households, there are 21 middle schools and 64 elementary schools. For elementary schools serving UCLA households, the capacity for the 2016-2017 school year was 31,057 and enrollment was 27,822. For middle schools and high schools serving UCLA households, the current capacity is approximately 35,385 and enrollment for the 2016-2017 school year was 32,162 (Maffei 2017; Lee 2017).

Libraries

There are numerous library facilities provided by UCLA Library on campus, including but not limited to: Arts Library, Biomedical Library, East Asian Library, Charles E. Young Research Library, Law Library (with restricted access), Management Library, Music Library, Powell Library, Science and Engineering Library, Special Collections, and Southern Regional Library (south of the Lot 15 site). These facilities are accessible to UCLA students, staff, and faculty (UCLA 2017b).

The UCLA Library receives approximately 3.5 million in-person visits annually. It has approximately 12 million print and electronic volumes, more than 15 million virtual visitors via the website, and laptops available to borrow (UCLA 2017b).

Parks and Recreation

University of California, Los Angeles Campus

The UCLA campus provides extensive access to a broad range of recreational facilities, activities, and services that reflect the varied athletic, recreational, and leisure needs of students, faculty, and staff. Despite UCLA's relatively limited land area, there is a high value placed on preserving and developing on-campus recreational areas; enhancing existing recreational areas to increase utilization; and encouraging the use of non-traditional areas for recreational activities. Approximately 80 percent of students and 25 percent of faculty and staff use UCLA's indoor and outdoor recreational facilities (UCLA 2009).

Existing athletic and recreational facilities on campus include several outdoor playing fields (formal spectator fields and informal fields), running tracks (including an on-campus track and an informal running path around the campus perimeter), courts (i.e., tennis, basketball), swimming pools, and lawn areas. Indoor facilities for multipurpose sports and fitness training, gymnastics, dance, and other cultural activities are also provided. The Central and Northwest zones contain most of the campus recreational and athletic facilities and playing fields. Major recreational facilities include Pauley Pavilion, Wooden Center, Student Activities Center (including South Pool), Spieker Aquatic Center, LA Tennis Center, Drake Track and Field Stadium/Marshall Field (adjacent to the Drake Stadium site), Sunset Canyon Recreation Center, Sunset Tennis Courts, the Intramural Field, North Athletic Field, Spaulding Field, Easton Stadium, North Pool (Kaufman Building), and Sycamore Courts (adjacent to and southwest of the Lot 15 site).

Table 4.12-1, Recreation Space and Multi-Use Facilities, of the March 2009 LRDP Amendment Final EIR, lists recreational facilities on the UCLA campus. Approximately 80 percent of students and 25 percent of faculty and staff use UCLA's indoor and outdoor recreational facilities.

City of Los Angeles/Off-Campus

While it is likely that most students who live on campus use on-campus recreational facilities, staff may use off-campus recreational facilities. Several off-campus recreational facilities are located in proximity to the campus. The City of Los Angeles Department of Recreation and Parks manages 3 public parks and recreational facilities within 1.5 miles of the project area: Barrington Recreation Center (17 acres), Holmby Park (8.5 acres), and the Westwood Park and Recreation Center (26.7 acres) (LARP 2017a). The Barrington Recreation Center includes, but is not limited to, a play area, an auditorium, active sports fields, picnic facilities, tennis and volleyball courts, and a dog park (LARP 2017b). Holmby Park, an 8.5-acre facility located on Club View Drive, provides picnic and play areas (LARP 2017d). The Westwood Park and Recreation Center, located on Sepulveda Boulevard, includes a play area, a community building, tennis courts and game courts, active sports fields, picnic facilities, an indoor swimming pool, and other indoor activities (LARP 2017c).

4.12.2 REGULATORY FRAMEWORK

Section 4.11, Public Services, and Section 4.12, Recreation, of the March 2009 LRDP Amendment Final EIR provide a complete discussion of the regulatory framework for the analysis of public services and recreation relevant for campus projects. The following discussion focuses on regulatory information presented in the LRDP Final EIR that has been updated since March 2009 and/or is particularly relevant to the proposed Project.

Federal

Higher Education Opportunity Act

The University shall comply with the requirements of the Campus Fire Safety Right-to-Know Act in the Higher Education Opportunity Act, which was signed by President Bush on August 1, 2008. Specifically, the legislation requires that a Fire Safety Report be distributed by the University containing statistics concerning the following in each on-campus student housing facility during the most recent calendar year for which data are available:

- The number of fires and the cause of each fire.
- The number of injuries related to a fire that resulted in treatment at a medical facility.
- The number of deaths related to a fire.

- The value of property damage caused by a fire.
- A description of each on-campus student housing facility's fire safety system, including the fire sprinkler system.
- The number of regular mandatory supervised fire drills.
- Policies or rules on portable electrical appliances, smoking, and open flames (such as candles); procedures for evacuation; and policies regarding fire safety education and training programs provided to students, faculty, and staff.
- Plans for future improvements in fire safety, if determined necessary by such institution.

State of California

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the *California Health and Safety Code*, which include regulations concerning building standards (as also set forth in the *California Building Code*); fire protection and notification systems; fire protection devices, such as extinguishers and smoke alarms; high-rise building and childcare facility standards; and fire suppression training. The State Fire Marshal enforces these regulations and building standards in all State-owned buildings, State-occupied buildings, and State institutions throughout California, including UCLA.

4.12.3 PROJECT IMPACTS AND MITIGATION

Methods

Impacts on public services typically result from an increase in population or building area that results in any changes in services that require the need for new or altered facilities. Potential impacts of the proposed Project are based on a review of (1) the existing and proposed facilities, if any, on campus and in the vicinity, (2) existing resources, and (3) the increased demand for public services and facilities resulting from the proposed Project.

Thresholds of Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project will normally have a significant adverse environmental impact related to public services and parks/recreation if it will:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for:
    - fire protection;
    - police protection;
    - schools;
    - parks; or
    - other public facilities (e.g., libraries).
- Create other public services impacts.

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 LRDP Amendment Final EIR

The following Programs, Practices, and Procedures (PPs) were adopted as part of the March 2009 LRDP Amendment Final EIR, and are incorporated as part of the proposed Project and assumed in the analysis presented in this section.

PP 4.11-1 *Fire alarm connections to the University Police Command Center shall continue to be provided in all new and renovated buildings to provide immediate location information to the Los Angeles Fire Department to reduce response times in emergency situations.*

PP 4.11-2(a) *Police staffing levels and equipment needs shall continue to be assessed on an ongoing basis as individual development projects are proposed and on an annual basis during the campus budgeting process to ensure that the appropriate service levels will be maintained to protect an increased campus population and an increased level of development.*

PP 4.11-2(b) *Annual meetings shall continue to be attended by the Director of UCLA Housing and the UCPD to evaluate the adequacy of police protection service for University owned housing, assess institutional priorities and budgetary requirements, and identify and implement appropriate actions to ensure the continued adequacy of police protection services for resident students.*

PP 4.12-1(a) *The campus shall continue to provide, operate, and maintain recreational facilities for students, faculty, and staff on campus.*

PP 4.12-1(b) *The campus shall continue to integrate landscaped open space (including plazas, courts, gardens, walkways, and recreational areas) with development to encourage use through placement and design.*

Impact Analysis

Threshold 12.1	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

The analysis of Impact 4.11-1 in Section 4.11, Public Services, of the March 2009 LRDP Amendment Final EIR concluded that, with implementation of PP 4.11-1, there would be a less than significant impact related to the need for new or physically altered fire protection facilities to accommodate the increased demand resulting from implementation of the remaining development allocation on campus and to maintain acceptable response times and fire flows.

During planning of the proposed housing projects, UCLA coordinated with the Campus Fire Marshal (UCLA Fire) regarding safety issues and compliance of the proposed housing projects with LAFD regulations. Consistent with the campus' standard procedures, UCLA Fire reviews and approves all individual development plans prior to construction to ensure that adequate fire flows will be maintained; an adequate number of fire hydrants will be provided in the appropriate locations; and circulation and design features will allow adequate emergency vehicle access in compliance with the *City of Los Angeles Municipal Code.* The Campus Fire Marshal also inspects buildings during and after construction, and buildings can only be occupied with the approval of the Fire Marshal. Further, the proposed buildings would be designed and constructed in compliance with applicable requirements of the California Building Code and *California Health and Safety Code,* including requirements pertaining to fire protection systems. Specifically, fire sprinklers, fire alarm systems, emergency lighting, emergency response notification systems, and illuminated signage would be installed.

As further described in Section 3.5.5, Utility Infrastructure, of this Draft SEIR, water connections would be extended from the existing water lines serving the project sites, and adequate fire flow would be provided. Fire hydrants are or would be provided in accordance with the *California Code of Regulations.* Fire and emergency access would be maintained primarily via the following routes for each site, and building occupants would utilize designated emergency exit stairs and routes:

- **Lot 15 Site.** De Neve Drive and the fire lane/access roads north, south, and east of the site.
- **Warren Hall Site.** Existing roadways and alleys that currently surround the site (e.g., Weyburn Place, Weyburn Terrace and South Lane).
- **UNEX Site.** Existing roadways that surround the site (Gayley Avenue, Le Conte Avenue, and Levering Avenue) and the proposed driveway along the northern site boundary, which would be accessed from Gayley Avenue.
- **Bradley Site.** Existing roadways that surround the site (Gayley Avenue, Strathmore Drive, and Charles E. Young Drive West) and the proposed access driveway from Charles E. Young Drive West.
- **Drake Stadium Site.** Charles E. Young Drive West along the western site boundary.

The physical impacts associated with extension of water lines from the proposed buildings to existing water lines and installation of required access have been addressed in the respective technical sections of this Draft SEIR (e.g., Section 4.2, Air Quality; Section 4.10, Noise; and Section 4.13, Transportation/Traffic).

The proposed Project incorporates PP 4.11-1, which requires direct fire alarm connections to the University Police command center, to facilitate emergency response by providing immediate location information. Additionally, per the agreement described previously, UCLA Fire would be the first responder to all fire alarms initiated from the proposed buildings and would request backup support from LAFD only as needed.

Increases in demand are routinely assessed by LAFD as part of an annual monitoring and budgeting process. Due to the efficacy of the agreement between UCLA Fire and UCLA, other fire protection services provided by UCLA Fire (as demonstrated by Code-8 calls responded to by the LAFD), the proximity of Fire Station No. 37 to the project sites (driving distances ranging from 0.4 to 1.4 miles), and the provision of adequate emergency access and fire flows at each site, the proposed housing projects would not require additional firefighting personnel or apparatus such that new, expanded, or altered fire protection services or facilities would be required in order to maintain an acceptable level of service. The proposed housing projects would

be served by existing facilities. Therefore, no physical environmental impacts related to the provision of fire protection services would result. Therefore, impacts associated with the provision of fire protection services from implementation of the proposed Project are considered less than significant.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would not require new or altered fire protection services and no physical impact would occur. Impacts would be less than significant.

Threshold 12.2	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

The analysis of Impact 4.11-2 in Section 4.11, Public Services, of the March 2009 LRDP Amendment Final EIR concluded that, with implementation of PP 4.11-2(a), there would be less than significant impacts related to the need for new or physically altered police facilities to accommodate the increased demand resulting from implementation of the remaining development allocation on campus and to maintain acceptable response times.

The UCLA campus, including the project sites that would be developed with the proposed housing projects, is served by dedicated sworn patrol officers. In addition, CSOs are assigned to provide foot patrol around housing facilities during the evening, night, and early morning hours. Security for UCLA housing is constantly monitored by several existing campus practices, including (1) key-card restricted entry to all buildings; (2) ongoing education of student residents on safety and security issues; (3) provision of staff presence 24 hours a day, 7 days a week at the front desks of residence halls; and (4) provision of staff and faculty (who live in each building along with the students) to be responsible for student safety and building security.

The proposed housing projects would provide up to 6,900 beds for undergraduate and graduate students (including approximately 1,962 students that already live on campus); however, there would not be an increase in the student enrollment at UCLA. Therefore, while there would be an increase in the on-campus resident population, there would not be an increase in the on-campus student population. However, the proposed Project would add approximately 145 new staff positions to provide maintenance, grounds keeping, custodial, administrative, residential life, and dining services to the proposed housing projects. The types and volume of service calls for police services at the proposed housing projects would be similar to existing student housing on campus. The University would continue to implement health and safety programs and the housing regulation/policies that were established to maintain a safe environment for students, including programs addressing consumption of alcohol and illegal drugs.

Consistent with PP 4.11-2(a), which has been incorporated into the proposed housing projects, the campus would continue to assess police staffing and equipment levels as individual development projects are proposed to ensure that adequate police protection continues to be provided. Furthermore, as required by 2002 LRDP Final EIR PP 4.11-2(b), annual meetings would

continue to occur between the Director of UCLA Housing and the UCPD to evaluate the adequacy of police protection service for University-owned housing. It should be noted that the coordination between UCLA Housing and the UCPD occurs on an ongoing basis and is not limited to an annual meeting. Through this coordination, existing police and CSO service are evaluated; institutional priorities and budgetary requirements are assessed; and appropriate actions are identified and implemented to ensure the continued adequacy of police protection services for resident students.

Additionally, to ensure adequate response to life-safety issues and as required by PP 4.11-1, the proposed Project would have direct fire alarm connections to the UCPD command center to facilitate emergency response by providing immediate location information. In addition, the UCPD would continue its current practice of cooperating with the LAPD and California Highway Patrol to help ensure the adequacy of police protection services for the campus.

The proposed Project can be adequately served with existing facilities and the UCLA police station on Westwood Plaza. Therefore, the proposed housing projects would not result in a need for the construction of new or altered police protection facilities. No physical environmental impacts related to the provision of police protection services would result.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would not require new or altered police protection services and no physical impact would occur. Project impacts would be less than significant.

Threshold 12.3	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

The analysis of Impact 4.11-3 in Section 4.11, Public Services, of the March 2009 LRDP Amendment Final EIR concluded there would be a less than significant impact to Los Angeles Unified School District (LAUSD) services and facilities with implementation of the remaining development allocation contemplated by the 2002 LRDP, as amended in March 2009.

The proposed on-campus student housing projects do not involve the development of new residential uses that would result in a direct increase/generation of students in the LAUSD. However, the proposed housing projects collectively would generate a relatively small number of new staff (approximately 145 staff and potentially 99 indirect[1]). As discussed in Section 4.11, Population and Housing, of this Draft SEIR, these positions would likely be filled by the local labor pool. Therefore, it is not expected that a substantial number of new students attending schools within the LAUSD would be generated as a result of the proposed housing projects. Therefore, consistent with the findings of the March 2009 LRDP Amendment Final EIR, the proposed housing

[1] Based on the direct-to-indirect employment impact ratio of 0.68 in the March 2009 LRDP Amendment Final EIR, the 145 new staff associated with the proposed housing project would be expected to generate approximately 99 indirect jobs distributed throughout the County of Los Angeles, for a total employment generation of up to 244 jobs.

projects would not require the construction of new or physically altered school facilities, and no physical impacts would occur. This impact is less than significant and no mitigation is necessary.

It should be noted that the estimated new employees from the proposed housing projects are assumed in the total population growth assumed for the campus by 2025.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would not require new or altered school facilities and no physical impact would occur.

Threshold 12.4	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities?
Threshold 12.5	Would the project create other public service impacts?

The analysis of other public facilities refers to libraries for the purposes of this analysis. The proposed housing projects involve the development of on campus housing for undergraduate and graduate students and would not include new married student, faculty, or staff housing. There would be no increase in the student enrollment projected for the campus.

There would be approximately 145 new staff added to the campus population as a result of the proposed housing projects; however, these positions would likely be filled by the local labor pool and the projected employment growth is consistent with the population projections for the campus. Therefore, a substantial growth in new residents, which would generate new demand for on- and off-campus library services and/or other public services, would not be anticipated with the proposed housing projects. The proposed housing projects would not require new or expanded library facilities or other public facilities, and no physical environmental impacts would result. There would be no impact.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would not require new or altered libraries or other public services and no physical impacts would result.

Threshold 12.6	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?
Threshold 12.7	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The analysis of Impact 4.12-1 in Section 4.12, Recreation, of the March 2009 LRDP Amendment Final EIR determined that implementation of the remaining development allocation on campus with an associated increase in the average weekday campus population (including students, faculty, and staff) would result in less than significant impacts related to substantial physical deterioration of on- or off-campus recreational facilities.

As discussed above, there are various City of Los Angeles park and recreational facilities in the vicinity of the campus. However, the proposed housing projects do not involve the development of new homes or other uses that would result in a direct increase in population and associated increased demand for off-campus park and recreational facilities. The proposed housing projects would provide up to 6,900 beds and associated support facilities to address the demand for undergraduate and graduate student housing on campus. It is estimated that approximately 71.6 percent of the beds (4,938 beds) would be used by students that would otherwise have to live off campus, and the remaining 28.4 percent (1,962 beds) would be used by students that currently reside in triple accommodations (3 beds in a room designed for 2 beds) on campus. The proposed housing projects would accommodate the existing and projected student population and would not generate new students. Therefore, there would not be an increased demand for recreational facilities as a result of the new student residents on campus.

The proposed housing projects would result in the addition of approximately 145 new staff at the UCLA campus. It is expected that this relatively small number of new staff positions would be filled by the existing labor pool in the City of Los Angeles or in the campus' immediately surrounding areas. Because these individuals are already living in the area and likely using off-campus recreational facilities, there would not be an increase in demand for off-campus facilities that would result from the proposed housing projects.

Consistent with PP 4.12-1(b), the proposed housing projects would integrate hardscape improvements, landscape improvements, and pedestrian paths accessible to all campus students, staff, faculty, and visitors. The UCLA Cultural Recreational Affairs Department continuously monitors the demand for recreational facilities on campus and adjusts operating hours and other program operating procedures to ensure that the existing facilities are used as efficiently as possible. Further, as identified in the March 2009 LRDP Amendment Final EIR and pursuant to PP 4.12-1(a), the campus will continue to provide, operate, and maintain recreational facilities for the on-campus population (including faculty and staff). Continued review of the demand for facilities and adjustments to operating procedures and facility design, and the ongoing maintenance conducted by the campus ensures that substantial physical deterioration does not occur.

Consistent with the conclusions of the March 2009 LRDP Amendment Final EIR, the proposed housing projects would not increase the demand for on- or off-campus recreational facilities such that a substantial physical deterioration of on-campus recreational facilities or acceleration of such

deterioration would occur. There would be a less than significant impact and no mitigation is required.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would not require new or altered park and recreational facilities and would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. No impact would result.

Threshold 12.8	Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The analysis of Impact 4.12-2 in Section 4.12, Recreation, of the March 2009 LRDP Amendment Final EIR identified that future recreational facilities, which may be implemented as part of buildout of the remaining development allocation on campus, would be subject to project-specific environmental review in accordance with CEQA.

There are no "recreational" facilities included with the proposed housing projects. The Draft Stadium site would involve construction activities adjacent to Drake Stadium, which is currently used by UCLA's soccer and track and field teams. The track and field area would remain in use during the building construction for both recreation and team uses. Spectator events would be facilitated with mobile bleachers that are currently used on the east side of the field. No new or expanded recreational facilities would be needed.

As further discussed under Thresholds 12.6 and 12.7, above, the proposed housing projects would not require the expansion of any existing recreational facilities on- or off-campus, nor would it require the construction of any additional facilities; therefore, no additional physical impacts would occur with implementation of the proposed housing projects.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

The proposed Project would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment, and there would be a less than significant impact.

4.12.4 CUMULATIVE IMPACTS

The geographic context for the analysis of cumulative public services and recreation impacts is the City of Los Angeles and the LAUSD boundaries, including cumulative growth therein, as represented by full implementation of the *Los Angeles Citywide General Plan Framework* and development of the related projects list provided by Table 4-1, City of Los Angeles List of Cumulative Projects, in Section 4.0, Introduction to Environmental Analysis.

Fire Protection and Police Protection

As additional development occurs in the City of Los Angeles, there may be an overall increase in the demand for law enforcement and fire protection services, including personnel, equipment, and/or facilities. However, increases in demand are routinely assessed by UCPD, LAPD, and LAFD as part of an annual monitoring and budgeting process, and law enforcement and fire protection services in the City are anticipated to be adequate to serve the proposed housing projects and cumulative projects. Additionally, the proposed housing projects would continue to be adequately served with existing personnel, equipment, and facilities. No new or expanded police or fire protection facilities would be required to serve the proposed housing projects, and there would be no associated physical environmental impacts.

Because implementation of the proposed housing projects can be accommodated by the existing and projected UCPD and LAFD service capabilities and because existing campus programs, practices, and procedures would continue to ensure the adequate provision of established response times and/or service ratios, the proposed housing projects would not result in a cumulatively considerable contribution to a significant cumulative impact related to fire and police protection.

Schools

Increased development throughout the City of Los Angeles would generate additional demand for public school classroom seating capacity in LAUSD and other school district schools. The degree to which this demand would be satisfied is dependent upon future enrollment trends. However, all new private-sector development will be required to pay statutory impact fees to LAUSD (pursuant to Senate Bill 50)[2] to help fund construction of additional classroom capacity, and, under current law, payment of these fees is deemed to constitute full mitigation under CEQA. For these reasons and assuming that cumulative demand for school capacity would be met as planned by the LAUSD, cumulative impacts throughout the LAUSD would be less than significant.

However, even in the event that significant cumulative impacts do occur as a result of future area-wide population growth, the proposed housing projects would not result in a cumulatively considerable contribution to a significant cumulative impact. As discussed above, the proposed housing projects would add a relatively small number of new employment opportunities (approximately 145 new staff positions and potentially 99 indirect positions), which would likely be filled by the local labor pool. The proposed housing projects do not involve the development of new residential uses that would result in a direct increase/generation of students in the LAUSD. As such, implementation of the proposed housing projects is not expected to substantially increase the number of students enrolled in the LAUSD. As a result, the proposed housing projects would not have a cumulatively considerable contribution to cumulative impacts on schools.

Libraries

Increased development throughout the City of Los Angeles would generate additional demand for library services and facilities. However, the proposed housing projects would not result in a cumulatively considerable contribution to a significant cumulative impact. The housing projects would add a relatively small number of new employment opportunities, which would likely be filled by the local labor pool, but would not involve an increase in the anticipated student enrollment at

[2] Senate Bill (SB) 50 (Leroy Green School Facilities Act), enacted in 1998, established a comprehensive program for funding school facilities based on 50 percent funding from the State and 50 percent funding from local districts, while limiting the obligation of developers to mitigate the impact of projects on school facilities.

the campus, and do not involve the development of new residential uses that would result in a direct increase in demand for library services. As such, implementation of the proposed housing projects is not expected to substantially increase the demand for library services on and off campus and would not have a cumulatively considerable contribution to cumulative impacts on libraries.

Recreation

Since commuting students, faculty, and staff live off campus, they may utilize a variety of recreational facilities and programs offered by the campus and/or the City of Los Angeles. The City of Los Angeles currently has over 16,000 acres of parkland (LARP 2017e). Based on the 2017 population of approximately 4,041,707 individuals (DOF 2017), there are approximately 4 acres of parkland per 1,000 residents. As additional residential development in the City is approved, in-lieu fees for parks or donation of parkland (pursuant to the Quimby Act[3]) are required as part of the individual City of Los Angeles projects. As identified under Thresholds 12.6 and 12.7, implementation of the proposed housing projects would not result in an increased demand for off-campus recreational facilities. The majority of the campus population (students, faculty, and staff) utilize on-campus recreational facilities, and these facilities would continue to be provided and maintained for students, faculty, and staff. Therefore, implementation of the proposed housing projects would not result in a substantial deterioration of existing facilities, nor would it accelerate such deterioration. The proposed housing projects' contribution to cumulative impacts on park and recreational facilities is, therefore, not cumulatively considerable and less than significant.

In order to accommodate projected, future, and cumulative demand for park and recreational facilities in the City of Los Angeles, it is assumed that such facilities would be developed and constructed throughout the City. With continued growth of the UCLA campus, both due to enrollment commitments and the ongoing conversion of UCLA from a commuter school to a residential campus, evaluation of recreational demand would be ongoing. Because the size, location, and type of these future facilities is not known at this time, it would be speculative to assess the magnitude of cumulative impacts associated with the construction of these facilities. However, it is reasonable to expect that all facilities would undergo CEQA review in accordance with California law and that project-specific impacts associated with development of each of these facilities would be mitigated to the extent feasible.

As previously discussed, the proposed housing projects do not include on-site recreational facilities. The proposed Project would not contribute to a significant cumulative impact related to construction of park and recreational facilities associated with cumulative project, whose construction may cause environmental impacts elsewhere in the City of Los Angeles. This impact would be less than significant.

[3] The Quimby Act allows local agencies, such as the City of Los Angeles, to establish ordinances requiring residential subdivision developers to pay impact fees that can be used to purchase and develop land and/or recreational facilities. The money generated from park in-lieu fees cannot be used for operating or maintaining parks but is solely for creating parks.

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4.13 TRANSPORTATION/TRAFFIC

This section of this Draft Subsequent Environmental Impact Report (SEIR) evaluates the potential for the proposed Project to result in transportation and traffic-related impacts. Sources used in preparation of this section include the *University of California, Los Angeles Long Range Development Plan Amendment (2017) and Student Housing Projects Transportation Impact Analysis (TIA)* conducted for the proposed Project by Crain and Associates (August 2017) (included in Appendix H of this Draft SEIR); the *UCLA 2008 Northwest Housing Infill Project and Long Range Development Plan Amendment Final Environmental Impact Report* (referred to herein as the March 2009 LRDP Amendment Final EIR or Final EIR); and other sources, as cited in this section.

Relevant elements of the proposed Project related to transportation and traffic are described in Section 3.0, Project Description and include the following:

- Provision of 6,900 beds for undergraduate and graduate student on campus, which would reduce the number of commuter students driving to and from the campus.
- Provision of vehicular access, as necessary, to comply with Americans with Disabilities Act (ADA) requirements and to accommodate the drop-off, pick-up, and service needs at each location.
- Provision of parking at each location only as necessary to comply with ADA requirements and to accommodate the drop-off, pick-up, and service needs. Parking would be limited to a few spaces at each site and would not include parking spaces for student residents or staff to discourage vehicular travel. Should residents or staff need parking, parking permits would be available for spaces on the UCLA campus. The proposed Project would maintain the LRDP parking space cap of 25,169 spaces (pursuant to March 2009 LRDP Amendment Final EIR PP 4.13-1[b]).
- Provision of pedestrian and bicycle facility connections at each site to draw people among residential buildings, community spaces, and the rest of campus. A pedestrian bridge would be constructed to connect the proposed housing development at the Lot 15 site to the street level on De Neve Drive. Bicycle storage and parking areas would also be provided at each site.
- Implementation of the University of California, Los Angeles (UCLA) Transportation Demand Management (TDM) program by students and staff.
- Short-term construction activities that would involve heavy trucks on the identified construction routes, including trucks to haul demolition materials and soil (import and export).

These project characteristics, and the discussion in this section related to reduction in vehicular travel (and associated fuel consumption) resulting from the proposed Project, demonstrate how the proposed Project avoids or otherwise reduces inefficient, wasteful, and unnecessary consumption of energy per CEQA Guidelines and Statute Appendix F and section 21100(b)(c). Further discussion of energy conservation is provided in Section 6.7 of this Draft SEIR.

Five comment letters were received in response to the Notice of Preparation (NOP) that addressed traffic issues. The California Department of Transportation (Caltrans) suggested the following analyses be conducted: (1) a peak hour queuing analysis for nearby on- and off-ramps in the area; (2) average daily traffic (ADT) as well as AM and PM peak hour volumes for existing and future conditions in the general affected area; (3) signal studies for nearby on/off ramps to Interstate (I) 405; and (4) construction traffic. Further, Caltrans' comments address measures to reduce vehicular trips, including use of non-vehicular modes of transportation and limiting parking provided as part of the proposed Project. Information regarding existing ADT, AM and PM peak hour volumes, and bicycle and pedestrian traffic is provided in the TIA (included in Appendix H of this Draft SEIR) and is summarized in Section 4.13.1, below. Potential construction-related impacts are addressed in this section under the analysis of Threshold 13.1, and use of alternative modes of transportation is addressed in this section under the analysis of Threshold 13.6. As described in this section, the proposed Project would have a net negative trip generation for weekday daily and AM peak hour trips, and is expected to add only 12 additional trips during the PM peak hour. Therefore, the proposed Project is not expected to result in any significant transportation impacts to surrounding intersections or street segments, and no further analysis is warranted or recommended. Further, as identified above, to reduce vehicular trips on campus, the proposed Project does not provide parking for student residents at the proposed housing sites; it only provides limited parking for ADA compliance, service/delivery vehicles, and pick-up/drop-off.

The Los Angeles County Metropolitan Transportation Authority (Metro) identifies that there are Metro bus lines operating in the area and recommends that Metro be notified of projects located in proximity to a Metro facility. A discussion of Metro and other transit facilities in the vicinity of the proposed housing projects is provided in this section. The Westwood Hills Property Owners Association identified that the traffic analysis should examine changes in daily local trips, changes in peak hour regional trips, and construction-related traffic impacts. Two individuals also commented on traffic: one commenter raised concerns about construction traffic and one commenter raised concerns about increased operational traffic.

4.13.1 ENVIRONMENTAL SETTING

Section 4.3.1, Environmental Setting, of the March 2009 LRDP Amendment Final EIR includes a detailed discussion of the existing conditions at the time the LRDP Final EIR was prepared for the Regional Highway and Street Network (streets and highways and study intersections); Alternative Transportation (public transit, campus transportation demand management program); and Campus Parking and Trip Generation. Following is a summary of this information that is either relevant to the proposed Project or that has been updated since the LRDP Final EIR was certified in March 2009. The "baseline condition" for purposes of analysis in this section is the environmental setting described below.

Existing Freeways

Regional access to UCLA is provided predominately via I-405. I-10 also facilitates UCLA trips traveling east-west throughout the region. Following is a description of the freeways; the annual average daily traffic (AADT) volumes provided are from the most current (2015) data available through the Caltrans website (see TIA for complete reference information).

San Diego Freeway (I-405). I-405 is a north-south-oriented freeway located approximately one-half to three-quarters of a mile west of UCLA. This facility has four to five mainline travel lanes and one high occupancy vehicle (HOV) lane in each direction. It runs along the western and southern parts of the Greater Los Angeles Area from Irvine in the south to near San Fernando in the north. I-405 provides a Westside alternative route to I-110 and I-5, which traverse through downtown Los Angeles approximately 12 miles to the east. I-405 carries an AADT volume of approximately 308,000 vehicles per day south of Wilshire Boulevard, with peak-hour volumes of approximately 22,700 vehicles per hour. I-405 has on- and off-ramps in both northbound and southbound directions at Sunset Boulevard and Wilshire Boulevard.

Santa Monica Freeway (I-10). I-10 extends eastward from its origin in the City of Santa Monica, through Los Angeles and San Bernardino counties to the Arizona border and across the country as a main southern east-west interstate. I-10 is located approximately two miles south of UCLA and generally provides four mainline travel lanes per direction, with auxiliary lanes provided between certain ramp locations. This freeway carries an AADT volume of approximately 245,000 vehicles per day east of Overland Avenue, with peak-hour volumes of approximately 15,800 vehicles per hour. I-10 connects with I-405 approximately two miles south of UCLA. The nearest westbound and eastbound on- and off-ramps for I-10 are provided on Overland Avenue.

Regional Highway and Street Network

The key highways and streets near UCLA and the proposed housing sites are briefly described below.

Bellagio Way/Bellagio Drive. Bellagio Way/Bellagio Drive provides direct access to both the community of Bel Air, north of Sunset Boulevard, and UCLA, south of Sunset Boulevard. North of Sunset Boulevard, Bellagio Way becomes Bellagio Road and is designated a Collector street (per the City of Los Angeles *Mobility Plan 2035*). This roadway runs north for approximately two-thirds of a mile, where it becomes Roscomare Road. South of Sunset Boulevard, Bellagio Drive extends approximately one-tenth of a mile into the UCLA campus and connects to De Neve Drive. Bellagio Way/Bellagio Drive generally provides one travel lane in each direction in the study area, with left- and right-turn channelization at its intersection with Sunset Boulevard.

Beverly Glen Boulevard. Beverly Glen Boulevard is a north-south roadway that traverses from Ventura Boulevard in Sherman Oaks, through Beverly Glen, Holmby Hills, and Westwood to Pico Boulevard in Rancho Park. In the vicinity of UCLA, Beverly Glen Boulevard is designated as an Avenue II roadway north of Wilshire Boulevard and an Avenue I south of Wilshire Boulevard. Beverly Glen Boulevard generally provides one travel lane per direction, with on-street parking allowed north of Wilshire Boulevard. South of Wilshire Boulevard, the roadway features two travel lanes in each direction with on-street parking allowed and left-turn channelization at major intersections.

Charles E. Young Drive. Charles E. Young Drive is an internal UCLA loop roadway that provides access throughout much of campus. The roadway has four different components (north, south, east, and west) corresponding to the portions of the main campus it serves. This roadway forms the western boundary of the Drake Stadium site and the eastern boundary of the Bradley site. The roadway generally provides one lane in each direction, with left- and/or right-turn channelization at major intersections.

De Neve Drive. De Neve Drive is an internal UCLA roadway that provides access to the Northwest zone. The roadway provides a loop through the Northwest zone, beginning at Charles E. Young Drive West in the vicinity of Sproul Cove and Landing and terminating at its intersection with Charles E. Young Drive West and Charles E. Young Drive North. This roadway forms the eastern boundary of the Lot 15 site. The roadway provides one-way travel northbound between Charles E. Young Drive West and Bellagio Drive and two-way travel between Bellagio Drive and Charles E. Young Drive North. De Neve Drive generally provides one travel lane per direction and a bicycle lane along its one-way segment.

Le Conte Avenue. Le Conte Avenue is an Avenue II designated roadway between Gayley Avenue and Hilgard Avenue, becoming a Local street east of Hilgard Avenue. This roadway forms the southern boundary of the UNEX site. There is one travel lane and left-turn channelization in each direction on Le Conte Avenue between Levering Avenue and Hilgard Avenue. It is also striped with a bicycle lane in each direction between Gayley Avenue and Hilgard Avenue. On-street parking is permitted on some portions of the roadway, including the north side of the roadway adjacent to the UNEX site. A pedestrian scramble crosswalk is located at this roadway's intersection with Westwood Plaza/Westwood Boulevard.

Levering Avenue. Levering Avenue is a Local street that extends from Montana Avenue south to Gayley Avenue. This roadway forms the western boundary of the UNEX site. Levering Avenue provides one travel lane in each direction with on-street parking permitted along some portions of the roadway.

Montana Avenue/Gayley Avenue/Midvale Avenue. Montana Avenue/Gayley Avenue/Midvale Avenue is generally designated an Avenue II roadway in the vicinity of UCLA, and it is a primary access route for Westwood Village and the campus. Gayley Avenue begins at Veteran Avenue, opposite Montana Avenue (a Collector street), and runs southeasterly adjacent to campus to its intersection with Wilshire Boulevard, where it becomes Midvale Avenue. This roadway forms the western boundary of the Bradley site and the eastern boundary of the UNEX site. Gayley Avenue generally provides two travel lanes in each direction at the study intersections, with left- and right-turn channelization at some locations. A combination of bicycle routes and lanes are provided along portions of Montana Avenue, Gayley Avenue, and Midvale Avenue.

Sepulveda Boulevard. Sepulveda Boulevard is a Boulevard II roadway that extends from the northern San Fernando Valley to the South Bay. It runs along the east side of I-405 in the vicinity of UCLA. Sepulveda Boulevard is generally striped with two travel lanes per direction, with left- and right-turn channelization at major intersections.

Strathmore Drive. Strathmore Drive is a Local street that provides a connection between the multi-family residential housing west of campus and UCLA. This roadway begins at Veteran Avenue, across from the Los Angeles National Veterans Cemetery and extends northeasterly, crossing into the UCLA campus at Gayley Avenue just north of Parking Structure 8. This roadway forms the southern boundary of the Bradley site. Strathmore Drive generally provides one travel lane in each direction with on-street parking west of Gayley Avenue. East of Gayley Avenue, the roadway provides two travel lanes in each direction with some left- and right-turn channelization and an eastbound bicycle lane.

Sunset Boulevard. Sunset Boulevard is an east-west roadway that traverses from the Pacific Ocean in Pacific Palisades, through West Los Angeles, West Hollywood, Hollywood, and Chinatown. Throughout the Project vicinity, Sunset Boulevard is designated as an Avenue I roadway. Sunset Boulevard forms the northern boundary of the UCLA campus, and typically features two through travel lanes in each direction, with left- and right-turn channelization at major intersections.

Veteran Avenue. Veteran Avenue extends from Sunset Boulevard to south of Pico Boulevard. Veteran Avenue is an Avenue II roadway from Sunset Boulevard to Missouri Avenue, a Collector street from Missouri Avenue to Pico Boulevard, and then a Local street farther south. It is generally striped with one travel lane per direction, with left- and right-turn channelization provided at major intersections. In the vicinity of Wilshire Boulevard, two travel lanes are provided in each direction. Veteran Avenue forms part of the western boundary of UCLA, and is west of the Lot 15 site; however, access to the Lot 15 site is not provided from Veteran Avenue.

Westwood Boulevard/Westwood Plaza. Westwood Boulevard/Westwood Plaza is designated an Avenue II roadway from Le Conte Avenue to Wilshire Boulevard, a Boulevard II roadway from Wilshire Boulevard to Santa Monica Boulevard, and an Avenue II roadway farther south. North of Le Conte Avenue, Westwood Boulevard enters the UCLA campus and becomes Westwood Plaza, providing two to three travel lanes in each direction. South of Le Conte Avenue, the roadway has two travel lanes in each direction, except at Wilshire Boulevard where it has three northbound lanes. Northbound and southbound left-turn and right-turn lanes are also provided at some study locations. Weekday peak-period left-turn restrictions are in place for certain northbound and southbound left-turn movements from Westwood Boulevard at Weyburn Avenue, Kinross Avenue, and Lindbrook Drive. On-street parking is permitted on both sides of the roadway. A bicycle lane is provided along Westwood Plaza from Le Conte Avenue to Charles E. Young Drive North. A pedestrian scramble crosswalk is located at this roadway's intersection with Le Conte Avenue.

Weyburn Avenue. Weyburn Avenue extends easterly from Veteran Avenue to Le Conte Avenue and is designated as a Local street. It has one to two travel lanes in each direction and westbound left-turn lanes at Veteran Avenue, Gayley Avenue, and Broxton Avenue. A bicycle route is provided between Gayley Avenue and Tiverton Avenue. On-street parking is permitted on some portions of the roadway. A pedestrian scramble crosswalk is located at the Broxton Avenue intersection.

Weyburn Terrace. Weyburn Terrace is an internal UCLA roadway that runs parallel to and approximately 250 east of Veteran Avenue. The roadway intersects with Weyburn Avenue at a signalized location, and it provides access to uses in the Southwest zone both north and south of Weyburn Avenue. Weyburn Terrace forms the western boundary of the Warren Hall site. North of Weyburn Avenue, this roadway provides one-way southbound travel. South of Weyburn Avenue, this roadway provides two-way travel.

Wilshire Boulevard. Wilshire Boulevard is a major thoroughfare between the City of Santa Monica and downtown Los Angeles. It is classified as a Boulevard II roadway throughout its length in West Los Angeles. Full ramp access to and from I-405 is provided via Wilshire Boulevard. In the study area, Wilshire Boulevard typically has three travel lanes in each direction and left-turn channelization. At major intersections, right-turn channelization is also provided. Additionally, the curb lanes east of Veteran Avenue are restricted to bus and right-turn-only operation during the weekday AM and PM peak periods. West of Veteran Avenue, the curb lanes service freeway interchange traffic.

Study Intersections

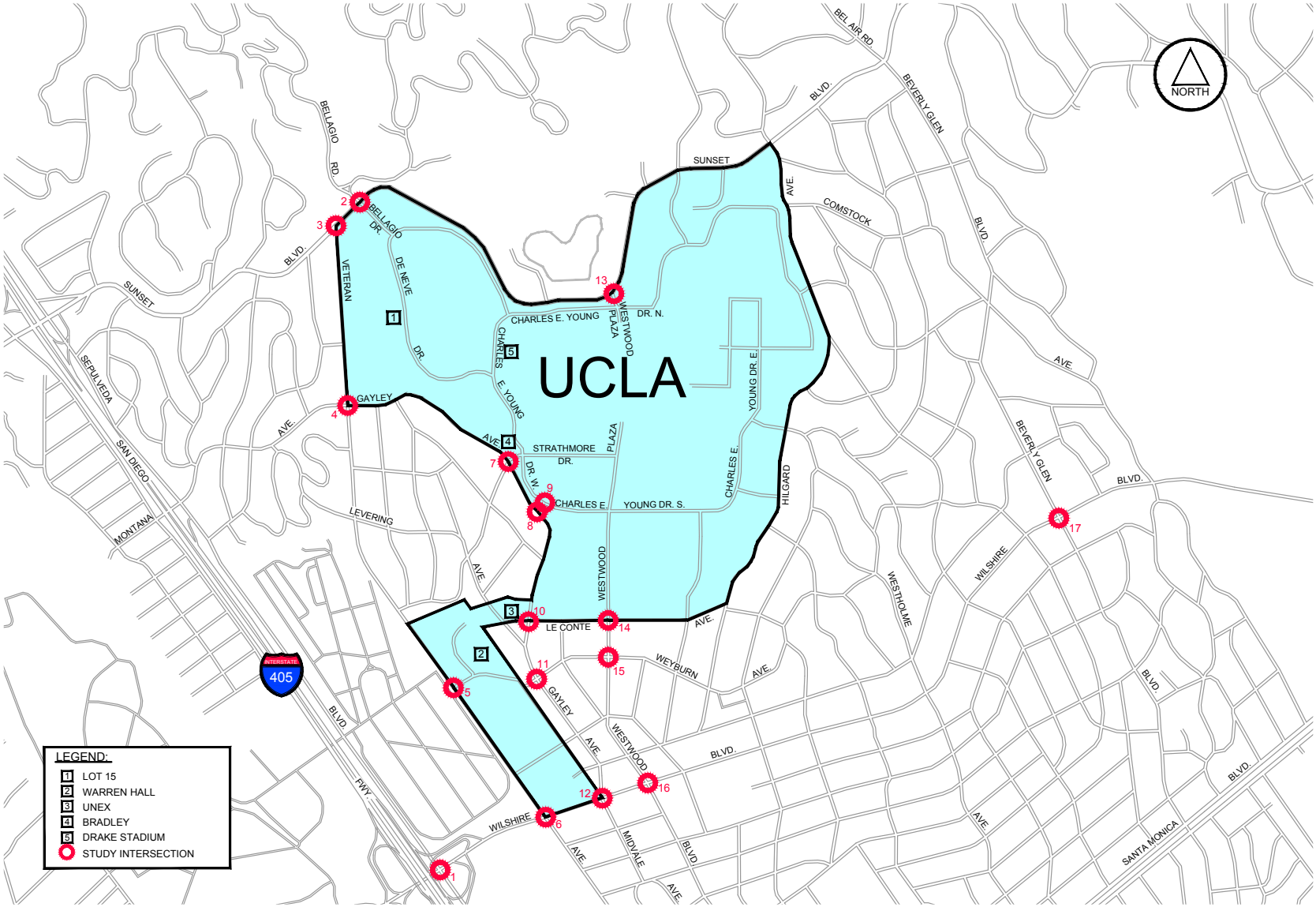
The 17 study intersections listed below and shown in Figure 4.13-1 were analyzed for existing traffic conditions. These locations include key intersections along the primary access routes to and from the proposed housing sites, and are those locations expected to experience the largest vehicle trip contributions from the proposed Project. Intersections for which adjustments to the CMA intersection capacity values were made, as described below, are denoted by an asterisk (*).

1. Wilshire Boulevard and Sepulveda Boulevard*
2. Sunset Boulevard and Bellagio Way/Bellagio Drive*
3. Sunset Boulevard and Veteran Avenue*
4. Montana Avenue/Gayley Avenue and Veteran Avenue
5. Weyburn Avenue and Veteran Avenue
6. Wilshire Boulevard and Veteran Avenue*
7. Strathmore Drive and Gayley Avenue
8. Charles E. Young Drive South and Gayley Avenue
9. Charles E. Young Drive South and Charles E. Young West
10. Le Conte Avenue and Gayley Avenue
11. Weyburn Avenue and Gayley Avenue
12. Wilshire Boulevard and Gayley Avenue/Midvale Avenue*
13. Sunset Boulevard and Westwood Plaza*
14. Le Conte Avenue and Westwood Plaza/Westwood Boulevard
15. Weyburn Avenue and Westwood Boulevard*
16. Wilshire Boulevard and Westwood Boulevard*
17. Wilshire Boulevard and Beverly Glen Boulevard

Existing Traffic Volumes

Although UCLA is not required to follow the City of Los Angeles Department of Transportation (LADOT) *Transportation Impact Study Guidelines* (December 2016), the TIA prepared for the proposed Project incorporates these guidelines in the analysis, where applicable. To that end, intersection traffic counts for the TIA were completed on a typical weekday during the morning and afternoon peak commute periods, which range from 7:00 AM to 10:00 AM and 3:00 PM to 6:00 PM, respectively. Counts were conducted for study intersections on January 12, 2016, April 26, 2017, and April 27, 2017. An ambient growth rate of one percent was applied to the 2016 counts to develop Existing (2017) traffic conditions. Peak-hour volumes were determined individually for each intersection based on the highest-volume four consecutive 15-minute periods for all vehicular movements. The intersection count data sheets are provided in Attachment A of the TIA included in Appendix H of this Draft SEIR.

The existing AM and PM peak hour traffic volumes are depicted on Figures 4.13-2a and 4.13-2b.



Source: Crain & Associates 2017

Study Intersections

Figure 4.13-1

UCLA LRDP Amendment (2017) and Student Housing Projects

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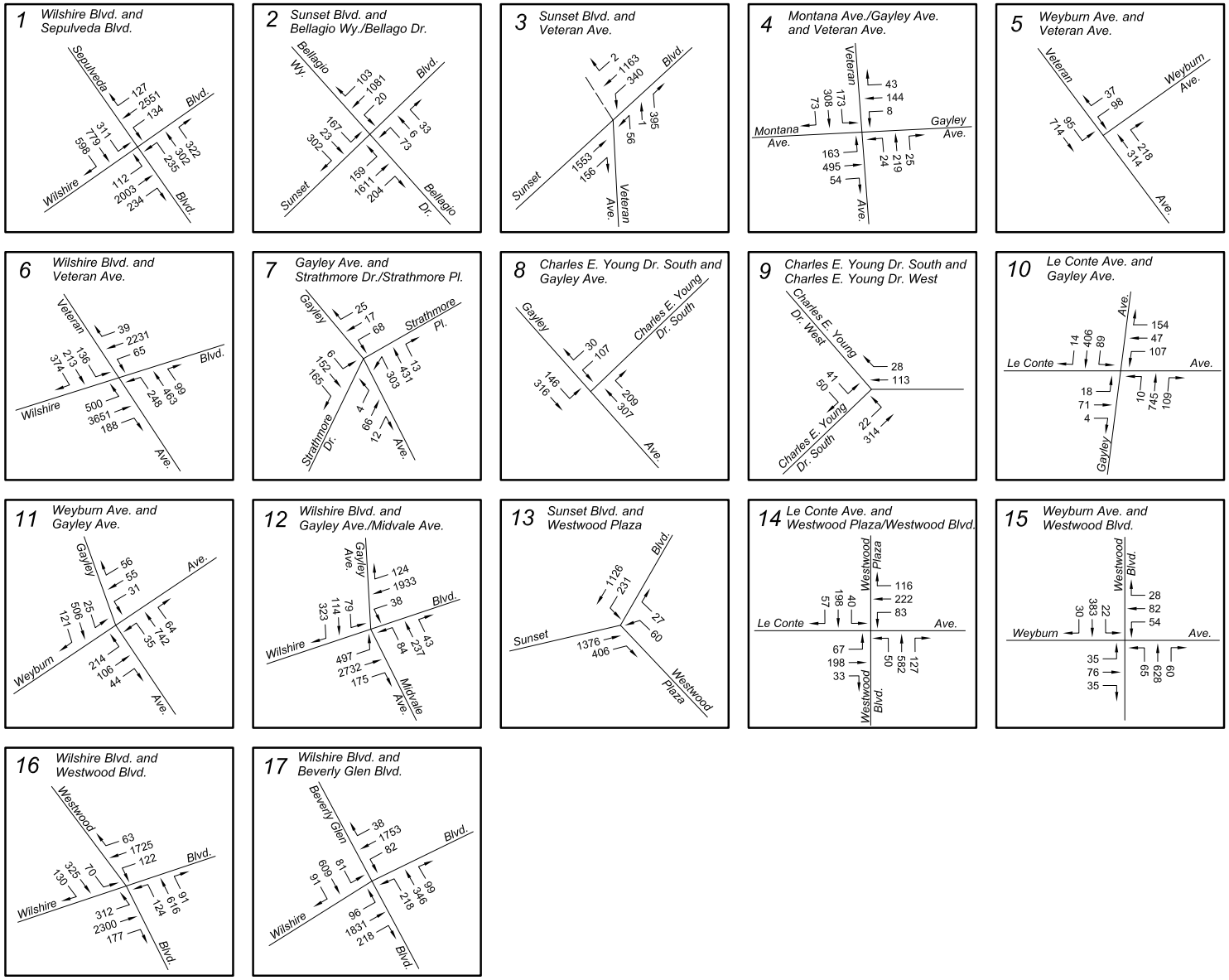

Source: Crain & Associates 2017

Existing (2017) Traffic Volumes AM Peak Hour

Figure 4.13-2a

UCLA LRDP Amendment (2017) and Student Housing Projects

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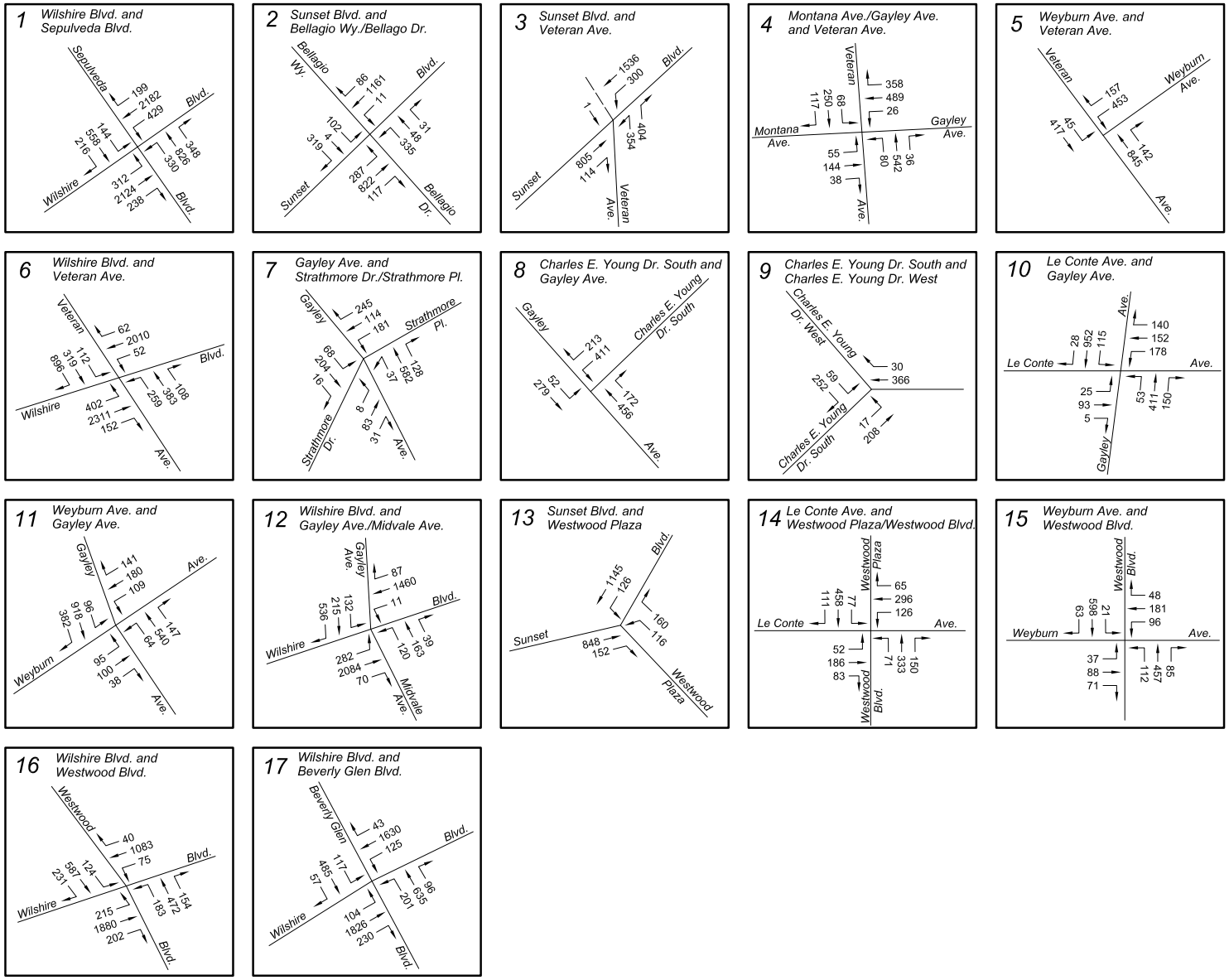

Source: Crain & Associates 2017

Existing (2017) Traffic Volumes PM Peak Hour

Figure 4.13-2b

UCLA LRDP Amendment (2017) and Student Housing Projects

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Traffic Operations

The term "Level of Service" (LOS) describes the quality of traffic flow, ranging from excellent conditions at LOS A to failure conditions at LOS F. LOS D is recognized by the City of Los Angeles and UCLA as an acceptable service level in urban areas. LOS E is recognized by some cities as an acceptable standard in downtown areas, major commercial areas, and at freeway ramp intersections.

The methodology for analyzing existing traffic conditions is also described in the TIA. In summary, the analysis of traffic conditions at the study intersections was performed using the Critical Movement Analysis (CMA) methodology, in line with the requirements of the current LADOT *Transportation Impact Study Guidelines*. Due to heavy peak-hour congestion in the Westwood area, traffic flow through many of the study intersections is impeded by downstream queuing, which blocks egress at many of the intersections. Following recent traffic studies in the area, adjustments to the CMA intersection capacity values were made to account for this intersection-blocking congestion at eight intersections along Westwood Boulevard, Wilshire Boulevard, and Sunset Boulevard, as identified in the list of intersections in the table below. At these intersections, a 25-percent reduction in intersection capacity was applied to account for the reduced number of vehicles able to pass through the intersections during peak hours. Additionally, to account for the pedestrian scramble signal phase, a capacity reduction of 33 percent was applied to the intersection of Le Conte Avenue and Westwood Plaza/Westwood Boulevard (Intersection 14).

Information pertaining to intersection characteristics (e.g., geometrics, traffic signal operations, and on-street parking restrictions) was obtained from field checks and City of Los Angeles engineering plans. The existing lane configurations and traffic-control conditions for the study intersections are illustrated in Attachment B of the TIA included in Appendix H of this Draft SEIR. This information, together with the study intersection volumes, were analyzed and the volume-to-capacity (V/C) ratios and the corresponding service levels for existing traffic conditions at the study intersections were determined. The Existing 2017 V/C ratios and the corresponding LOS under existing AM and PM peak hour conditions for the study intersection are shown in Table 4.13-1. All CMA/LOS calculations were performed using the standard LADOT LOS Worksheet and are included in Attachment C of the TIA included in Appendix H of this Draft SEIR.

TABLE 4.13-1
CRITICAL MOVEMENT ANALYSIS AND LEVEL OF SERVICE SUMMARY
EXISTING (2017) PEAK HOUR TRAFFIC CONDITIONS

Intersection No.	Intersection	Peak Hour	Existing (2017) Conditions	
			V/C Ratio	LOS
1	Wilshire Blvd and Sepulveda Blvd[a]	AM	1.110	F
		PM	1.179	F
2	Sunset Blvd and Bellagio Way/Bellagio Dr[a]	AM	0.924	E
		PM	1.073	F
3	Sunset Blvd and Veteran Ave[a]	AM	1.071	F
		PM	0.951	E
4	Montana Ave/Gayley Ave and Veteran Ave	AM	0.717	C
		PM	1.003	F
5	Weyburn Ave and Veteran Ave	AM	0.218	A
		PM	0.697	B
6	Wilshire Blvd and Veteran Ave[a]	AM	1.223	F
		PM	1.132	F
7	Strathmore Dr and Gayley Ave	AM	0.334	A
		PM	0.569	A
8	Charles E. Young Dr S and Gayley Ave	AM	0.224	A
		PM	0.385	A
9	Charles E. Young Dr S and Charles E. Young Dr W	AM	0.076	A
		PM	0.228	A
10	Le Conte Ave and Gayley Ave	AM	0.390	A
		PM	0.473	A
11	Weyburn Ave and Gayley Ave	AM	0.402	A
		PM	0.653	B
12	Wilshire Blvd and Gayley Ave/Midvale Ave	AM	1.013	F
		PM	0.910	E
13	Sunset Blvd and Westwood Plz[a]	AM	0.791	C
		PM	0.496	A
14	Le Conte Ave and Westwood Plz/Westwood Blvd[b]	AM	0.671	B
		PM	0.647	B
15	Weyburn Ave and Westwood Blvd[a]	AM	0.402	A
		PM	0.587	A
16	Wilshire Blvd and Westwood Blvd[a]	AM	1.006	F
		PM	0.924	E
17	Wilshire Blvd and Beverly Glen Blvd	AM	0.817	D
		PM	0.785	C

CMA: V/C: volume/capacity; LOS: Level of Service; AM: morning; PM: evening.

[a] Intersection capacity reduced by 25 percent to account for downstream queuing.
[b] Intersection capacity reduced by 33 percent to account for pedestrian scramble.

Source: Crain and Associates 2017

As shown in Table 4.13-1, 9 of the 17 study intersections analyzed are operating at excellent to good LOS (i.e., LOS A, B, or C) during both AM and PM peak hours. The intersection of Wilshire Boulevard and Beverly Glen Boulevard is operating at LOS D, a fair level of service, during the AM peak hour and LOS C during the PM peak hour. The remaining seven intersections identified below are experiencing poor or failing service levels (LOS E or F) during one or both peak hours:

- **Wilshire Boulevard and Sepulveda Boulevard (Intersection 1).** LOS F during the AM and PM peak hours.
- **Sunset Boulevard and Bellagio Way/Bellagio Drive (Intersection 2).** LOS E during the AM peak hour and LOS F during the PM peak hour.
- **Sunset Boulevard and Veteran Avenue (Intersection 3).** LOS F during the AM peak hour and LOS E during the PM peak hour.
- **Montana Avenue/Gayley Avenue and Veteran Avenue (Intersection 4).** LOS C during the AM peak hour and LOS F during the PM peak hour.
- **Wilshire Boulevard and Veteran Avenue (Intersection 6).** LOS F during the AM and PM peak hours.
- **Wilshire Boulevard and Gayley Avenue/Midvale Avenue (Intersection 12).** LOS F during the AM peak hour and LOS E during the PM peak hour.
- **Wilshire Boulevard and Westwood Boulevard (Intersection 16).** LOS F during the AM peak hour and LOS E during the PM peak hour.

Campus Trip Generation and Parking

To determine the annual status of UCLA campus trip generation, UCLA conducts a week-long count of vehicles entering and exiting the campus during the third week of October. This week was chosen as it represents a heavy vehicle generation week during the regular session. This "Cordon count" is conducted via a mixture of electronic and mechanical means (e.g., magnetic road loops and rubber hose counting systems). As a result, all trips entering and exiting the campus are recorded, including those associated with pass-through traffic (e.g., non-UCLA vehicles traversing the campus to travel from one location to another). The Wilshire Center's traffic is handled by an agreed-upon formula with LADOT and is added to the main campus Cordon count. In conjunction with the adoption of the 1990 LRDP, UCLA entered into a Transportation Mitigation Monitoring Agreement (TMMA) with the City of Los Angeles, which limits the total number of vehicle trips that can be generated over the 15-year planning horizon of the 1990 LRDP to 139,500 average daily vehicle trips (this limit is codified as 1990 LRDP Mitigation Measure C-1.5). This commitment was extended an additional five years with the adoption of the 2002 LRDP, and UCLA extended it again as part of the 2002 LRDP Amendment in March 2009 (refer to PP 4.13-1[a] carried forward from the March 2009 LRDP Amendment Final EIR).

The historic campus vehicle trip generation (ADT) from 1990 to 2007 is shown in Table 4 of the March 2009 LRDP Amendment Final EIR Traffic Study. The total average daily trip generation for the UCLA campus has varied since the 1990 LRDP, but has remained well below the LRDP trip cap of 139,500 average daily vehicle trips (pursuant to PP 4.13-1[a]). During the fall 2016 Cordon counts (the most current available information), the campus generated approximately 105,284 daily vehicle trips, which is approximately 13,985 fewer daily vehicles trips than in 2007 when the March 2009 LRDP Amendment Final EIR was prepared (estimated at 119,269 daily vehicle trips). This represents a 12 percent decrease in the campus daily vehicle trips between 2007 and 2016, despite the weekday average population increase. It should also be noted that 2016 Cordon counts are approximately 25 percent less than the campus trip cap of 139,500. With a 2016 trip level approximately 25 percent below the campus vehicle trip cap, UCLA continues the trend of

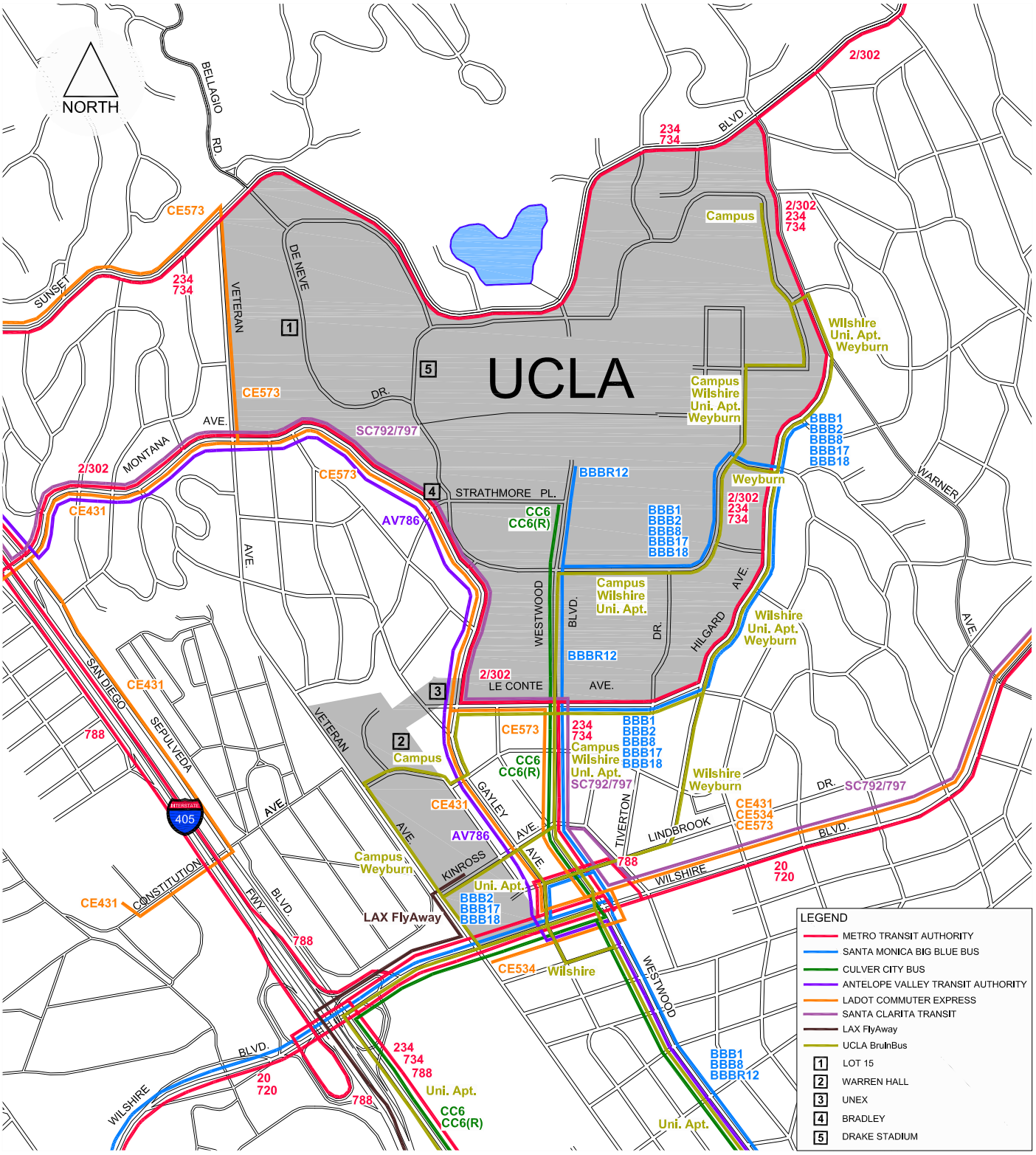
low overall vehicle trip generation experienced over the past 10 years (with daily trip generation levels approximately 14 to 30 percent below the trip cap).

Based on the parking inventory also conducted in fall 2016, the UCLA campus currently has approximately 22,738 parking spaces (UCLA 2017b). This is 2,411 fewer spaces than the LRDP 25,169-space parking cap (refer to March 2009 LRDP Amendment Final EIR PP 4.13-1[d]).

Public and UCLA Transit

A detailed discussion of the modes of alternative transportation serving the UCLA campus is provided in the March 2009 LRDP Amendment Final EIR and the TIA prepared for the proposed Project (included in Appendix H of this Draft SEIR). A summary of this information is presented below.

The roadways within and around UCLA are served by a variety of bus lines managed by multiple transit operators that include Metro, Santa Monica Big Blue Bus (BBB), Culver City Bus, LADOT Commuter Express, Santa Clarita Transit, and the Antelope Valley Transit Authority. Los Angeles World Airports and Amtrak also operate bus service near the UCLA campus and connect to air and rail facilities, respectively. The Westwood/Rancho Park Light Rail Station is located approximately 2.5 miles south of UCLA and provides additional transfer opportunities to other regional destinations. Transit connections in the general vicinity of the campus are shown in Figure 4.13-3. The bus lines providing access to the UCLA campus are summarized in Table 4.13-2. Table 4.13-2 also provides a listing of the proposed housing sites within a "reasonable walking distance" (approximately one-quarter mile) of a stop for each transit line. It should be noted that Metro Bus Lines 2 and 302 operate along Gayley Avenue and there are Metro bus stops adjacent to the Bradley and UNEX sites. Additionally, the LADOT Commuter Express Route 431 stops at the Bradley site, which is a transfer point for Metro Bus Line 2. It should also be noted that Metro also has plans to extend the Metro Purple Line subway to Westwood, with a proposed subway station along Wilshire Boulevard at Lot 36.



Source: Crain & Associates 2017

Public Transit Network

Figure 4.13-3

UCLA LRDP Amendment (2017) and Student Housing Projects

PSOMAS

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TABLE 4.13-2
EXISTING PUBLIC TRANSPORTATION

Agency	Bus Number	Begin	End	Frequency	Comments	Proximate Proposed Housing Sites*
Metro	2	Downtown LA	Pacific Palisades	5–15 min	Metro	1, 2, 3, 4, 5
	20	Downtown LA	Santa Monica	5–15 min	Runs Everyday	
	234	Westwood	Sylmar	17–20 min	Runs Everyday	2, 3
	302	Downtown LA	Pacific Palisades	20–40 min	Weekdays Only	1, 2, 3, 4, 5
	720	Santa Monica	City of Commerce	2–10 min	Runs Everyday	
	734	West LA	Sylmar	15–20 min	Weekdays Only	2, 3
	788	Arleta	Westwood	15 min	Weekdays Only	
BBB	1	Windward Ave and Main St	UCLA @ Hilgard Terminal	10–15 min	BBB	2, 3
	2	4th St and Civic Center Dr	UCLA @ Hilgard Terminal	15–20 min	Runs Everyday	2, 3
	8	7th St and Olympic Blvd	UCLA @ Hilgard Terminal	12–20 min	Runs Everyday	2, 3
	R12	Westwood Plz and Strathmore Pl	Overland Ave and Venice Blvd	10–15 min	Runs Everyday	2, 3, 4
	17	Robertson Blvd and Venice Blvd	UCLA @ Parking Lot 2	15–20 min	Runs Everyday	2, 3
	18	Via Marina and Admiralty Way	UCLA @ Hilgard Terminal	20–30 min	Runs Everyday	2, 3
Culver City Bus	6	UCLA @ Gateway Plz	Aviation/LAX Green Line Station	15–20 min	Culver City Bus	2, 3, 4
	R6	UCLA @ Gateway Plz	Aviation/LAX Green Line Station	15–20 min	Weekdays Only	2, 3, 4
LADOT Commuter Express	431	VA Medical Center	LA Union Station	25–30 min	LADOT Commuter Express	4, 5
	534	Wilshire Blvd and Veteran Ave	LA Union Station	20–30 min	Weekdays Only	
	573	Constellation Blvd and Century Park East	Granada Hills Park and Ride	10–15 min	Weekdays Only	1, 2, 3, 4, 5
Santa Clarita Transit	792	Ave Stanford and Technology Dr	Century Park West and Solar Wy	30 min	Santa Clarita Transit	2, 3, 4, 5
	797	Santa Clarita Metrolink Station	Century Park West and Solar Way	15–30 min	Weekdays Only	2, 3, 4, 5
Antelope Valley Transit Authority	786	Lancaster	Santa Monica Blvd and La Brea Ave	20–30 min	Antelope Valley Transit Authority	1, 2, 3, 4, 5

TABLE 4.13-2
EXISTING PUBLIC TRANSPORTATION

Agency	Bus Number	Begin	End	Frequency	Comments	Proximate Proposed Housing Sites*
BruinBus	Campus	Weyburn Terrace	Macgowan Hall	8–10 min	BruinBus	2, 3, 4
	Wilshire	Wilshire Center	Murphy Hall	8–10 min	Weekdays Only	3, 4
	Weyburn Express	Weyburn Terrace	Murphy Hall	30 min	Mornings Only	2, 3
	University Apartment Shuttle	Campus	Select off-campus UCLA apartments	60 min	Weekdays Only	2
	Football Shuttle (Rooter Bus)	Bruin Walk	Rose Bowl Lot B	No Peak-Hour Service	Football Game Service Only	4, 5
	Westwood Shuttle	De Neve Plz and Hedrick Hall	Tiverton Ave and Le Conte Ave	30 min	Saturdays and Sundays Only	1, 4, 5
	Saturday Shuttle	UCLA @ De Neve	Wilshire Blvd and 3rd St (Santa Monica)	No Peak-Hour Service	Saturdays Only	4, 5
LAX FlyAway	Westwood FlyAway	Los Angeles International Airport	UCLA @ Parking Structure 32	60 min	LAX FlyAway	2
Amtrak	Amtrak Throughway Bus	Various Locations in CA	UCLA @ Parking Structure 32	No Commuting Service	Amtrak	4

Metro: Los Angeles County Metropolitan Transportation Authority; BBB: Big Blue Bus; LADOT: Los Angeles Department of Transportation; VA: Veteran's Administration; LAX: Los Angeles International Airport

* Proximate Proposed Housing Sites are within approximately one-quarter mile of at least one bus stop.

The Housing Site numbers correspond with the following names: 1. Lot 15; 2. Warren Hall; 3. UNEX; 4. Bradley; 5.Drake Stadium.

Additionally, UCLA runs its own bus network, branded as BruinBus, providing service within the campus and point-to-point connections to off-campus housing and amenities. The BruinBus shuttle service includes the Campus Shuttle, Wilshire Shuttle, Weyburn Express, Westwood Shuttle, and Saturday shuttle. The evening van service extends the BruinGo connection in the evening and provides service between the hours of 6:00 PM and 11:00 PM. The University Apartment Shuttle connects the UCLA campus and Westwood Village to the UCLA Apartments near Culver City and operates between 7:00 AM to 10:35 PM (8:00 AM to 5:50 PM during the summer). There is a BruinBus stop along the north side of Weyburn Avenue south of the Warren Hall site; as previously noted, this bus stop would be improved as part of the proposed housing project at the Warren Hall site.

Campus Transportation Demand Management Program

University of California (UC) policy goals for achieving a sustainable transportation system are multifaceted, with a focus on increasing the Average Vehicle Ridership (AVR),[1] the number of low- or zero-emission vehicles (partial zero-emissions vehicle [PZEV] or zero-emissions vehicle [ZEV]), and the number of fuel-efficient/alternative fuel vehicles in the campus fleet. The UCLA TDM program began in 1984 with a mission of using parking fees and other UCLA resources to achieve cost-effective reductions in campus trip generation and parking demand, while increasing mobility options for faculty, staff, and students. The UCLA TDM program has grown into a comprehensive program that offers a broad range of services to encourage and assist UCLA commuters in utilizing alternatives to the single-occupancy vehicle.

The specific components of the TDM program will continue to change over time as the campus strives for the most cost-effective manner by which to achieve its required goals, so long as the overall effectiveness of the program is not compromised. A detailed description of the components of the UCLA TDM program is provided in Section 4.13, Transportation/Traffic, of the March 2009 LRDP Amendment Final EIR, and includes carpool matching, vanpool, campus transit/shuttles, emergency ride home program, bicycles, iWalk pedestrian program, motorcycles and scooters, telecommuting and alternative work schedules, car share, alternative fuel infrastructure, TDM outreach, BruinGo! transit program, non-stop bus service to the Los Angeles International Airport, and Go Metro Transit Access Pass (TAP) passes.

During the more than 32 years of operation, UCLA's TDM program has remained at the leading edge of such programs and has received numerous awards from regional and local agencies, including the State of California's Governor's Award, the City of Los Angeles Mayoral Award, and Rideshare Program Awards from the South Coast Air Quality Management District (SCAQMD) and Metro. In addition, UCLA has been recognized as a best workplace for commuters by the U.S. Department of Transportation (USDOT) and the U.S. Environmental Protection Agency (USEPA).

Since 1984, UCLA's comprehensive TDM program increased the campus-wide AVR from 1.26 to 1.66; exceeding the 1.5 AVR goal set by the SCAQMD. The TDM program includes incentives to reduce the employee drive-alone rate, which has resulted in a decline from 69 percent in 1990 to approximately 53 percent in 2016, which is substantially lower than the Los Angeles County drive-alone rate of 74 percent. The drive-alone rate has been accomplished through 1,030 carpools and 148 vanpools transporting 1,438 full-time riders (UCLA 2016). UCLA Transportation is responsible for monitoring compliance with the TDM program.

In addition, UCLA began the BruinGo! transit subsidy program in September 2000, which includes reduced fares on the Santa Monica Big Blue Bus and Culver City Bus. In 2005, the GoMetro

[1] The AVR is the ratio of employees arriving between 6 AM and 10 AM to the motor vehicles they drive to campus.

program was launched, introducing 50 percent transit subsidies for Los Angeles County's Metro Bus and Metro Rail systems. The LADOT, Santa Clarita Transit, and the Antelope Valley Transit Authority all have 50 percent transit subsidy agreements with the University.

To incentivize ridesharing and active transportation, UCLA students and employees who use an alternative transportation mode can receive commuter benefits by joining the Bruin Commuter Club (BCC). BCC members receive discounted daily parking privileges, commuter rewards from Metro, and emergency ride home services. Those who bike or walk to campus also receive additional mode-specific benefits through BCC. In 2016, the BCC had roughly 5,000 employee members and 400 student members.

Carsharing services at UCLA allow customers to rent a vehicle for an hourly or daily rate, with fuel and insurance costs included in the rental fee. Zipcar is currently the sole carsharing provider for UCLA, with a total of 24 vehicles available at 11 different locations on campus.

Much has been accomplished toward meeting the goals to increase the University's fuel efficient/alternative fuel fleet. In the area of clean and fuel-efficient vehicles, the University's campus fleet includes PZEV and ZEV vehicles. Through development of the UCLA Fleet Optimization Plan, UCLA Transportation has systematically reduced the number of conventionally fueled fleet vehicles and increased the number of alternative fuel vehicles.

Pedestrian and Bicycle Facilities

Pedestrian and bicycle access is provided at each of the proposed housing sites from sidewalks along adjacent roadways, on-street bikeways, and/or on campus pedestrian pathways (such as Bruin Walk), as described below:

- **Lot 15 Site.** There are sidewalks along both sides of De Neve Drive near the Lot 15 site, and a striped on-street bikeway in the southbound direction. The direction of vehicular travel on De Neve Drive in this area is northbound and there are painted sharrows indicated shared use by vehicles and bicycles.
- **Warren Hall Site.** There are sidewalks along the western side of Weyburn Terrace and along Weyburn Avenue west and south of this site, and sidewalks north of the site serving the existing graduate student housing.
- **UNEX Site.** There are sidewalks along Levering Avenue, Le Conte Avenue, and Gayley Avenue adjacent to this site.
- **Bradley Site.** There are sidewalks along Gayley Avenue, Strathmore Drive, and Charles E. Young Drive West, which form the western, southern, and eastern boundaries of the site, respectively. Painted sharrows are provided along the south side Strathmore Drive, and along Gayley Avenue, adjacent to the site.
- **Drake Stadium Site.** This site is accessed from various pedestrian pathways in the vicinity, including along Charles E. Young Drive North and Charles E. Young Drive West (north and west of the site, respectively). In the vicinity of the site there are painted sharrows along Charles E. Young Drive West and the south side of Charles E. Young Drive North, and a striped on-street bikeway along the north side of Charles E. Young Drive North. Bruin Walk, which is one of the primarily east-west pedestrian pathways on campus, is located south of the site.

The manual traffic counts at the study area intersections included observations of both pedestrian and bicycle traffic. A review of the pedestrian and bicycle traffic volumes indicates that these volumes are highest at the study intersections on the periphery of the UCLA campus (specifically

those legs providing access/egress to/from campus) and those within Westwood Village. The north leg of the intersection of Strathmore Drive and Gayley Avenue, adjacent to the Bradley site, exhibited the highest pedestrian crossing volumes of any study intersection leg, with 2,617 crossings during the weekday AM peak period (7:00 AM to 10:00 AM) and 2,330 crossings during the PM peak-period (3:00 PM to 6:00 PM). The east and west legs of the intersection of Le Conte Avenue and Westwood Plaza/Westwood Boulevard (east of the UNEX site) also displayed high crossing volumes, combining for 1,191 crossings during the AM peak period and 2,146 crossings during the PM peak period. Intersections within Westwood Village, such as Le Conte Avenue and Gayley Avenue, Weyburn Terrace and Gayley Avenue, Wilshire Boulevard and Gayley Avenue/Midvale Avenue, Weyburn Avenue and Westwood Boulevard, and Wilshire Boulevard and Westwood Boulevard, all experienced heavy pedestrian crossings at all intersection legs, especially during the PM peak period. The data also suggest that the Gayley Avenue/Midvale Avenue and Westwood Boulevard corridors are popular routes for bicyclists entering and exiting the UCLA campus. The intersection count data sheets are provided in Attachment A of the TIA included in Appendix H of this Draft SEIR.

UCLA has been designated a Bike Friendly University twice by the League of American Bicyclists, receiving Bronze status in 2011 and an upgraded Silver status in 2015. The UCLA campus has over seven miles of bicycle routes, low-cost quarterly bicycle rentals for students, on-site shower facilities, and a bicycle shop located near the center of campus. UCLA also hosts programs to encourage bicycling, such as a bicycle citation diversion program (BruinBikeSmart) and the Earn-A-Bike program, which allows eligible employees to trade in their parking permit for a free bicycle.

4.13.2 REGULATORY FRAMEWORK

A discussion of the State-mandated Congestion Management Program (CMP) is provided in the March 2009 LRDP Amendment Final EIR and is summarized under the discussion of Threshold 13.2 in this Draft SEIR. Additionally, sustainable transportation policies included in the UC Sustainable Practices Policy (Policy) and the UCLA Sustainable Transportation Plan are discussed in Section 4.6, Greenhouse Gas Emissions, of this Draft SEIR. These sustainability policies are primarily applicable at the UC-wide or campus-wide level and are not applicable to specific projects.

State

Senate Bill 743

The State Office of Planning and Research (OPR) is currently developing revisions to the California Environmental Quality Act (CEQA) Guidelines under Senate Bill (SB) 743. The revised CEQA Guidelines will establish new criteria for determining the significance of transportation impacts and will define alternative metrics to replace LOS. The legislation does not preclude the application of local general plan policies, zoning codes, conditions of approval, thresholds, or any other planning requirements related to level of service; rather, it identifies alternative performance metrics related to minimizing vehicle miles of travel (VMT).

On August 6, 2014, OPR released the SB 743 guidelines in a document entitled *Updating Transportation Impacts Analysis in the CEQA Guidelines*, a revised proposal was released for public review on January 20, 2016. VMT is the proposed transportation metric for identifying impacts under CEQA and the use of automobile delay described solely by LOS as the basis for impact significance will be replaced in Transit Priority Areas immediately once the guidelines go into effect. This is anticipated to occur in early 2018 after the draft guidelines are submitted to the Natural Resources Agency and go through the formal rulemaking process upon filing the guidelines with the Secretary of State. Outside of Transit Priority Areas, lead agencies may elect

to be governed by the new guidelines once they go into effect or wait until they become mandatory.

As SB 743 guidelines have not yet been adopted, they are not required to be applied, and are not being applied, to the analysis for the proposed Project. However, it is important to note that the proposed Project would provide 6,900 new beds on campus for undergraduate and graduate students, includes 3 housing sites within Transit Priority Areas (Warren Hall, UNEX and Bradley sites), and includes access to existing pedestrian and bicycle facilities in proximity to the housing sites. Bicycle storage would also be provided at each site for students and employees. Further, there would not be parking provided onsite for student residents, only parking required for ADA compliance, delivery/service vehicles, and drop-off/pick-up. These project attributes reduce the number of commuter students driving to and from the campus, discourage students from having a vehicle while living on campus, and encourage/ facilitate the use of transit instead of motor vehicles to and from the campus. Therefore, there would be an overall reduction in vehicular travel and associated VMT, and fuel consumption.

4.13.3 PROJECT IMPACTS AND MITIGATION

Methods

As previously identified, existing traffic conditions are based on traffic counts conducted for study intersections on January 12, 2016, April 26, 2017, and April 27, 2017. An ambient growth rate of one percent was applied to the 2016 counts to develop Existing (2017) traffic conditions. The estimated trip generation resulting from the proposed Project was calculated, as further discussed under Threshold 13.1, below.

Per the latest version of the LADOT *Transportation Impact Study Guidelines* (December 2016), a Transportation Impact Study is required when a project is likely to add 43 or more AM or PM peak-hour vehicle trips to the local street system. A Technical Memorandum, which is a significantly scaled-down version of a Transportation Impact Study, is required when a project is likely to add 25 to 42 AM or PM peak-hour vehicle trips. If fewer than 25 trips are projected to be generated by a project during the peak hours, a project is not expected to result in significant transportation impacts to any surrounding intersections or street segments and no analysis is recommended by the LADOT. The traffic impact guidelines of the current 2010 CMP for Los Angeles County require the analysis of all CMP arterial monitoring locations where a project could add a total of 50 or more trips during either peak hour. Additionally, all freeway monitoring locations where a project could add 150 or more trips in either direction during the peak hours are to be analyzed. Because the proposed Project would generate fewer than 25 trips during the peak hours, no detailed analysis of study area intersections, CMP facilities, of freeway facilities is required.

An assessment of potential impacts to transit facilities has been conducted based on estimated increases in ridership. Additionally, potential impacts to existing pedestrian, bicycle and emergency access routes during construction and operation are addressed based on the location of the proposed housing sites and construction impact areas in relation to these existing facilities.

Thresholds of Significance

According to Appendix G of the State CEQA Guidelines,[2] a project will normally have a significant adverse environmental impact related to transportation/traffic if it will:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 LRDP Amendment Final EIR

The following Programs, Practices, and Procedures (PPs) and Mitigation Measures (MMs) were adopted as part of the March 2009 LRDP Amendment Final EIR and are incorporated as part of the proposed Project and assumed in the analysis presented in this section.

PP 4.13-1(a) *The campus shall continue to maintain the 1990 LRDP vehicle trip cap of 139,500 average daily trips.*

PP 4.13-1(b) *The campus shall continue to maintain the 1990 LRDP parking cap of 25,169 spaces.*

PP 4.13-1(c) *The campus shall continue to provide on-campus housing to continue the evolution of UCLA from a commuter to a residential campus.*

PP 4.13-1(d) *The campus shall continue to implement a TDM program that meets or exceeds all trip reduction and AVR requirements of the SCAQMD. The TDM program may be subject to modification as new technologies are developed or alternate program elements are found to be more effective.*

PP 4.13-2 *UCLA Capital Programs will assess construction schedules of major projects to determine the potential for overlapping construction activities to result in periods of heavy construction vehicle traffic on individual roadway segments, and adjust construction schedules, work hours, or access routes to the extent feasible to reduce construction-related traffic congestion.*

[2] In March 2010, updates to the State CEQA Guidelines were adopted, which included revisions to the thresholds for transportation and traffic. The Regents of the University of California subsequently updated UC checklists for CEQA documentation reflecting the updated State CEQA Guidelines' Appendix G checklist. Analysis is presented in this section to address the updated thresholds; thresholds that were eliminated from the State CEQA Guidelines and UC checklists (including the potential for impacts related to parking) are not addressed.

PP 4.13-5 *To the extent feasible, the campus shall maintain at least one unobstructed lane in both directions on campus roadways. At any time only a single lane is available, the campus shall provide a temporary traffic signal, signal carriers (i.e., flagpersons), or other appropriate traffic controls to allow travel in both directions. If construction activities require the complete closure of a roadway segment, the campus shall provide appropriate signage indicating alternative routes.*

PP 4.13-6 *For any construction-related closure of pedestrian routes, the campus shall provide appropriate signage indicating alternative route and provide curb cuts and street crossing to assure alternate routes are accessible.*

PP 4.13-8 *To ensure adequate access for emergency vehicles when construction projects would result in temporary lane or roadway closures, UCLA shall consult with the UCPD, EH&S, and the LAFD to disclose temporary lane or roadway closures and alternative travel routes.*

MM 4.13-11 *To the extent that construction worker parking demand exceeds historical levels or available supply, off-site construction worker parking shall be provided with shuttle service to the remote parking location.*

Impact Analysis

Threshold 13.1	Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

The analysis of Impacts 4.13-1 and 4.13-2 in Section 4.13, Transportation/Traffic, of the March 2009 LRDP Amendment Final EIR, which addressed impacts to intersection and freeways during construction and operation concluded that implementation of the remaining development allocation on campus would result in the following:

- Less than significant impacts to freeway mainline segments (Impact 4.13-1b);
- Significant and unavoidable impacts to intersection LOS at eight intersections (project and cumulative) (Impact 4.13-1b); and
- Significant and unavoidable impacts along roadway segments and at intersections from construction-related vehicle trips (project and cumulative) (Impact 4.13-2).

Following is a discussion of potential temporary construction-related traffic impacts and operational traffic impacts at study area intersections resulting from the proposed Project. As previously identified, because the proposed Project is located in the City of Los Angeles, the City's Transportation Impact Study guidelines were followed to determine the type and extent of the traffic analysis.

Temporary Construction Traffic

As identified in Section 4.13, Transportation/Traffic, of the March 2009 LRDP Amendment Final EIR, access to and from the campus is constrained due to the presence of residential streets, the Los Angeles National Cemetery, the Santa Monica Mountains, and Westwood Village. As a practical matter, two roadways (Wilshire and Sunset Boulevards) provide the primary access routes for construction vehicles. The March 2009 LRDP Amendment Final EIR assumed that the

net effect of campus construction activities could result in localized traffic impacts in the vicinity of the campus, including the Wilshire Boulevard and Sunset Boulevard intersections, which provide north/south access points to the campus from Veteran Avenue.

As further discussed in the March 2009 LRDP Amendment Final EIR, construction of buildings and facilities could involve demolition of existing structures and removal of construction debris; grading and/or excavation of the site (for building foundation or below grade levels) and associated export (or import) of earth materials; and delivery of construction materials and trips associated with construction workers. The Final EIR concluded that, in general, construction of individual buildings is not anticipated to result in substantial construction-related trip volumes, except for those facilities that could involve substantial excavation and export of earth materials, which could result in periods of heavy truck traffic that could negatively affect road segments and intersections in the project vicinity. Therefore, the analysis of construction traffic typically focuses on the heavy truck trips that would be generated.

Construction traffic resulting from the proposed housing projects would primarily be associated with construction workers commuting to and from the project site; removal of demolition materials; import/export of soils; delivery of building materials; and transport of construction equipment. Construction workers do not commute during peak hours as they arrive prior to morning (AM) peak hour and leave prior to the evening (PM) peak hour. Additionally, as required by March 2009 LRDP Amendment Final EIR MM 4.13-11, off-site construction worker parking would be provided with shuttle service to the remote parking location. The use of heavy trucks for the transport and disposal of building materials, equipment, and soils would occur periodically throughout the workday, but largely outside of peak hours. For the proposed housing projects, the peak days for construction-related heavy truck traffic would occur when haul trucks are transporting demolition materials from the construction area.

As discussed in Section 3.0, Project Description, of this Draft SEIR, and as shown in Table 4.13-3 below, during demolition, site-preparation, and grading activities, it is conservatively estimated that the maximum daily round-trip truck trips would range from 1 for the Drake Stadium site to 63 daily trips during the earthwork at the Bradley site, which would last for approximately 3 months. Assuming these trips would be generated by a tractor-trailer combination (for which each truck trip is equivalent to 2.5 vehicle trips), peak construction traffic ranging from approximately 3 to 158 car-equivalent round trips could result. Because these trips would occur over a typical 8-hour construction day, the number of trips generated during an average hour for the individual proposed housing projects would range from less than one to 20, including the AM peak hour. Construction activities would typically be completed each day prior to the PM peak hour; therefore, no PM peak hour impacts are anticipated.

TABLE 4.13-3
HEAVY TRUCK TRIP GENERATION DURING CONSTRUCTION ACTIVITIES

Housing Site	Demolition/ Site Preparation/ Grading Period	Maximum Daily Truck Round Trips	Car-Equivalent Daily Round Trips[a]	Round Trips Generated per Hour[b]
Lot 15	2 months	54	135	17
Warren Hall	4 months	49 (during earthwork)[c]	123	15
UNEX	4 months	15 (during demolition)[c]	38	5
Bradley	3 months	63 (during earthwork)	158	20
Drake Stadium	3 months	1	3	–[d]

[a] Numbers have been rounded to nearest 1 when result of multiplication is not a whole number.
[b] Numbers have been rounded to nearest 1.
[c] Demolition activities at the Warren Hall site would generate approximately 23 daily round truck trips and earthwork activities at the UNEX site would generate approximately 4 daily round truck trips.
[d] There are only 1 daily round truck trip and 3 car-equivalent round trips estimated per day, leaving the trips per hour at a number less than 1.

As described in Section 3.0, Project Description, of this Draft SEIR, construction vehicles would access the proposed housing sites via I-405 along routes that would include Wilshire Boulevard, Gayley Avenue, Strathmore Drive, Strathmore Place, Charles E. Young Drive West, De Neve Drive, Veteran Avenue, South Lane, Weyburn Avenue, and Le Conte Avenue. For the Lot 15, Warren Hall and UNEX sites, there would periods of time when the respective demolition, site-preparation, and grading activities overlap. For example, the grading activities for the Lot 15 site would likely overlap with the demolition activities for the Warren Hall site and the grading activities at the UNEX site; this would occur for an approximately one-month period. Collectively, these activities would generate approximately 81 daily round truck trips. This represents approximately 203 car-equivalent round trips, 25 AM car-equivalent peak hour round trips, and approximately 50 AM car-equivalent peak hour trips (25 inbound and 25 outbound). However, the anticipated construction routes for these sites have been developed to minimize the number of truck trips on any one roadway segment:

- **Lot 15 Site.** It is expected that the construction routes for this site would be I-405, Wilshire Boulevard, Gayley Avenue, Strathmore Drive, Charles E. Young Drive West, and De Neve Drive.
- **Warren Hall Site.** It is expected that the construction routes for this site would be I-405, Wilshire Boulevard, Veteran Avenue, and South Lane (a UCLA-owned and gated access road, north of Weyburn Avenue).
- **UNEX Site.** It is expected that the construction routes for this site would be I-405, Wilshire Boulevard, Veteran Avenue, Weyburn Avenue, Gayley Avenue, and Le Conte Avenue.

The only intersection that would be used by all of the trucks traveling to the sites is Wilshire Boulevard and Veteran Avenue, which operates at LOS F during the AM peak hour (refer to Table 4.13-1). It is estimated that approximately 50 car-equivalent truck trips would pass through this intersection. With the identified truck routes, the combined truck trips at other intersections along the construction routes for these projects would range from 34 to 44 car-equivalent truck trips. With the exception of the intersection of Wilshire Boulevard and Gayley Avenue/Midvale Avenue, which also operates at LOS F during the AM peak hour, the majority of the intersections along the truck routes operate at LOS A (e.g., Weyburn Avenue and Veteran Avenue, Weyburn Avenue and Gayley Avenue, Le Conte Avenue and Gayley Avenue, and Strathmore Drive and Gayley Avenue). Only the truck traffic from the Lot 15 site (approximately 34 car-equivalent truck trips)

would pass through the intersection of Wilshire Boulevard and Gayley Avenue. It should be noted that the Warren Hall and UNEX sites are currently occupied; the trips currently generated from these sites would cease prior to initiation of demolition activities, off-setting the increase in trips that would occur during construction. However, the generation of approximately 50 car-equivalent trips during the AM peak hour could result in traffic delays along these routes, and could potentially impact operations at currently deficient intersections. This is considered a potentially significant temporary impact, lasting approximately one month when there is an anticipated overlap in demolition and grading activities for the Lot 15, Warren Hall and UNEX sites.

With respect to construction activities for the Bradley and Drake Stadium sites, the construction activities that generate the largest number of heavy truck trips would not overlap. Site preparation at the Drake Stadium site is estimated to be initiated in the winter of 2022, while site preparation and grading at the Bradley site is not expected to be initiated until the spring of 2023. The earthwork activities at the Bradley site would generate approximately 20 car-equivalent round trips during the AM peak hour (approximately 40 total car-equivalent trips). Based on the construction route for the Bradley site (I-405, Wilshire Boulevard, Veteran Avenue, Gayley Avenue, Strathmore Place, and Charles E. Young Drive West), the truck trips would pass through deficient intersection(s), including Wilshire Boulevard and Veteran Avenue. This is considered a potentially significant temporary impact, lasting approximately 3 months when the grading activities for the Bradley site are occurring.

To mitigate these temporary construction-related traffic impacts, MM TRF-1 is proposed, which would restrict heavy truck trips to no more than 24 passenger car-equivalent trips per hour during the morning hours from 7:00 AM to 9:00 AM. As previously identified, the LADOT transportation impact study guidelines indicate that when fewer than 25 trips are projected to be generated by a project during the peak hours, a project is not expected to result in significant transportation impacts to any surrounding intersections or street segments. While this is an operational threshold, it is being applied to the construction-related truck trips for this project. With implementation of MM TRF-1, potentially significant temporary construction-related impacts would be less than significant. Additionally, continued implementation of PP 4.13-2, which has been incorporated into the proposed Project, would require an assessment by UCLA of the construction schedules for major projects that could overlap and any adjustments made as necessary and to the extent feasible, in order to reduce construction-related traffic congestion.

Operational Traffic Impacts

Project Trip Generation

Consistent with March 2009 LRDP Amendment Final EIR PP 4.13-1(c), the proposed Project involves the development of on-campus student housing to continue the evolution of UCLA from a commuter to a residential campus. Up to 6,900 beds would be accommodated at the 5 proposed housing sites. As shown in Table 4.11-3, Anticipated Student Population, in Section 4.11, Population and Housing, of this Draft SEIR, the 6,900 total students occupying the proposed housing projects would consist of 1,550 newly enrolled students; 1,900 continuing students who currently do not live on campus; 1,000 new transfer students; and 488 graduate students. Additionally 1,962 continuing students who currently live on campus and would be “de-tripled” from triple bed rooms designed for two beds; these students would generate zero new trips as they are already living on campus.

Student trip generation rates for the proposed Project were based on 2013 trip generation rates (per person) from the *2008 UCLA Northwest Housing Infill Project and LRDP Amendment* Transportation Impact Analysis. From the proposed Project housing data provided by UCLA staff, students were categorized by their previous housing situation to determine their contribution to

the Project trip generation. Newly enrolled student categories would generate only positive trip contributions, as students in these categories did not attend UCLA prior to the proposed Project. However, for existing UCLA students returning to live on campus from off-campus housing, there would be both positive and negative trip contributions: positive resident student trip contributions and negative commuter student trip contributions. In other words, existing commuter student trips would be removed (negative contribution) from the surrounding roadway network as those students move back to campus and generate trips as resident students (positive contribution).

The categorization of anticipated students residents and associated trip generation are shown in Table 4.13-4, and labels the students as follows: (1) 1,550 newly enrolled students are "Resident Students – Undergraduate"; (2) 1,900 continuing students who currently do not live on campus are both positively generating "Resident Students – Undergraduate" and negatively generating "Commuter Students"; (3) 1,000 Transfer Students are "Resident Students – Undergraduate"; and (4) 488 Graduate Students are "Resident Students – Graduate."

Trip generation estimates for proposed Project employees were initially developed based on two methodologies. The first method, similar to that used for the student population, was based on 2013 trip generation rates (per person) from the *2008 UCLA Northwest Housing Infill Project and LRDP Amendment* Transportation Impact Analysis. Utilizing "Faculty & Staff – Other University" trip rates from that analysis, average weekday daily and peak-hour trip generation estimates were determined for the approximate 145 total staff members. The second method utilized data from a staffing model, provided by UCLA personnel. This model estimated that the proposed Project would employ approximately 145 total staff members with the variety of job descriptions detailed in Table 2 of the proposed Project TIA included in Appendix H of this Draft SEIR. Each of these employees was conservatively estimated to make two daily vehicular campus trips (one inbound/one outbound). To determine the number of AM and PM peak-hour trips, staff members were categorized based on their anticipated work schedules. Distinct information on shift start times and schedules was included with the staffing model for some of the projected employees (1 maintenance, 56 custodial, and 45 dining employees). All other employees (22 maintenance, 4 grounds, 5 administrative, 10 residential life, and 2 dining employees) were conservatively assumed to work typical shifts and schedules and potentially arrive during the AM peak hour and depart during the PM peak hour. Based on information from the 2016 UCLA employee SCAQMD travel survey, a 25-percent discount was conservatively taken from the baseline employee trip estimates to account for employees commuting via public transit, walking, and bicycling. The trip generation estimates resulting from the second method proved to be more conservative and, therefore, were used in this analysis. Further details on the staff trip assumptions are included in the notes at the bottom of Table 4.13-4.

Table 4.13-4 displays the vehicular traffic anticipated to be generated by the proposed Project. Overall, the proposed students and staff are expected to reduce the vehicular activity generated by the UCLA campus by 77 trips on a typical weekday, which equates to an approximate 0.07 percent reduction in trips relative to the 105,284 average weekday daily trips experienced by the campus per the 2016 Cordon count. It should be noted that this reduction in daily trips would be partially offset by new trips associated with deliveries and service/maintenance vehicles which, in some cases, only occur weekly, twice weekly, or only in the summer. These trips typically do not occur during the peak hours. Conservatively assuming these potential trips would occur on the same day, there would be approximately 50 new daily trips. Therefore, there would be a net reduction of approximately 27 trips with implementation of the proposed housing projects, which equates to an approximate 0.03 percent reduction in trips relative to the average weekday daily trips experienced by the campus. With the decrease in daily trips, the campus overall average weekday daily trip would remain within the LRDP vehicle trip cap of 139,500 average daily trips (as required by March 2009 LRDP Amendment Final EIR PP 4.13-1[a]).

TABLE 4.13-4
PROPOSED PROJECT TRIP GENERATION RATES AND SUMMARY

Land Use	Intensity[a]	Average Weekday	AM Peak Hour[b]			PM Peak Hour[b]		
			In	Out	Total	In	Out	Total
Trip Generation Rates[c]								
Resident Students – Undergraduate	1 pe	0.147	78%	22%	0.002	32%	68%	0.012
Resident Students – Graduate	1 pe	0.959	78%	22%	0.091	32%	68%	0.101
Commuter Students	1 pe	0.746	78%	22%	0.061	32%	68%	0.071
Trip Generation Summary								
Description	**Size**	**Average Weekday**	**AM Peak Hour**			**PM Peak Hour**		
			In	**Out**	**Total**	**In**	**Out**	**Total**
Faculty and Staff (Work Schedule)								
Maintenance Staff (typical)	22 emp	44	22	0	22	0	22	22
Maintenance Staff (atypical [2:00 PM to 11:00 PM])[d]	1 emp	2	0	0	0	0	0	0
Grounds Staff (typical)	4 emp	8	4	0	4	0	4	4
Custodial Staff (typical)	6 emp	12	6	0	6	0	6	6
Custodial Staff (atypical [7:00 AM to 3:30 PM])[e]	35 emp	70	0	0	0	0	0	0
Custodial Staff (atypical [11:00 AM to 7:30 PM])[f]	7 emp	14	0	0	0	0	0	0
Custodial Staff (atypical [2:00 PM to 10:00 PM])[g]	8 emp	16	0	0	0	0	0	0
Administrative Staff (typical)	5 emp	10	5	0	5	0	5	5
Residential Life Staff (typical)	10 emp	20	10	0	10	0	10	10
Dining Staff (atypical [start between 6:30 AM and 7:00 AM])[h]	13 emp	26	0	0	0	0	0	0
Dining Staff (typical [start between 7:30 AM and 9:00 AM])[i]	5 emp	10	5	0	5	0	5	5
Dining Staff (atypical [start between 11:00 AM and 4:00 PM])[j]	22 emp	44	0	0	0	0	0	0
Dining Staff (atypical [start at 6:00 PM])[k]	7 emp	14	0	0	0	7	0	7
Faculty and Staff Subtotal		*290*	*52*	*0*	*52*	*7*	*52*	*59*
25% Public Transit/Walk/Bicycle Adjustment[l]		-72	-13	0	-13	-2	-13	-15
Faculty and Staff Total		**218**	**39**	**0**	**39**	**5**	**39**	**44**

TABLE 4.13-4
PROPOSED PROJECT TRIP GENERATION RATES AND SUMMARY

Description	Size	Average Weekday	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Students								
Resident Students – Undergraduate (New Students)	1,550 pe	228	2	1	3	6	13	19
Resident Students – Undergraduate (Already On Campus)[m]	1,962 pe	0	0	0	0	0	0	0
Resident Students – Undergraduate (Students Coming Back)	1,900 pe	279	3	1	4	7	16	23
Resident Students – Undergraduate (Transfer Students)	1,000 pe	147	2	0	2	4	8	12
Resident Students – Graduate	488 pe	468	34	10	44	16	33	49
Commuter Students (Students Coming Back)	-1,900 pe	-1,417	-90	-26	-116	-43	-92	-135
Students Total		**-295**	**-49**	**-14**	**-63**	**-10**	**-22**	**-32**
Net Project Trips		***-77***	***-10***	***-14***	***-24***	***-5***	***17***	***12***

Notes

[a] pe = Person; emp = Employee.

[b]. Directional distributions (inbound and outbound) assumed to be the same as those for the University/College land use code (LUC 550) from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (9th Edition, 2012), with the independent variable of number of students.

[c] UCLA permit group per-person trip generation rates assumed from the 2008 UCLA NHIP and LRDP Amendment Traffic Impact Analysis for all student populations.

[d] With an atypical work schedule starting at 2:00 PM and ending at 11:00 PM, inbound and outbound trips are not anticipated to be completed during the AM and PM peak hours, which fall in the 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM windows.

[e] With an atypical work schedule starting at 7:00 AM and ending at 3:30 PM, inbound trips are anticipated to occur before the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur before the PM peak period (4:00 PM to 6:00 PM).

[f] With an atypical work schedule starting at 11:00 AM and ending at 7:30 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).

[g] With an atypical work schedule starting at 2:00 PM and ending at 10:00 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).

[h] With an atypical work schedule starting between 6:30 AM and 7:00 AM, inbound trips are anticipated to occur before the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur before the PM peak period (4:00 PM to 6:00 PM).

[i] With a typical work schedule starting between 7:30 AM and 9:00 AM, inbound trips are anticipated to occur during the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur during the PM peak period (4:00 PM to 6:00 PM).

[j] With an atypical work schedule starting between 11:00 AM and 4:00 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).

[k] With an atypical work schedule starting at 6:00 PM, inbound trips are anticipated to occur during the PM peak period (4:00 PM to 6:00 PM) and outbound trips are expected to occur outside the peak periods.

[l] According to the South Coast Air Quality Management District's 2016 survey of UCLA employee travel behavior, over 25 percent of employees utilize commute modes that do not require the use of a passenger vehicle (16.9 percent public transit, 6.9 percent walk, and 1.9 percent bicycle). The assumed travel mode split adjustment of 25% conservatively ignores the passenger vehicle trip-reducing effects of the 12.0 percent and 4.3 percent of UCLA employees who carpool and vanpool, respectively, to and from the campus.

[m] As these 1,962 students currently live on campus and would be “de-tripled” from more crowded housing, their resident student trips are already included in the baseline condition and would have zero trip generation as part of the proposed Project.

Source: Crain and Associates 2017.

During the AM peak hour, the proposed Project is estimated to eliminate 24 trips, which equates to an approximate 0.31 percent reduction in trips relative to the 7,672 average weekday AM peak-hour trips experienced by the campus per the 2016 Cordon count. A net positive trip generation is expected during the PM peak hour, when the proposed Project is estimated to generate 12 additional trips, which equates to an approximate 0.01 percent increase in trips relative to the 8,454 average weekday PM peak-hour trips experienced by the campus per the 2016 Cordon count. As previously discussed, per the latest version of the LADOT *Transportation Impact Study Guidelines*, if fewer than 25 trips are projected to be generated by a project during the peak hours, a project is not expected to result in significant transportation impacts to any surrounding intersections or street segments and no analysis is recommended by the LADOT. Therefore, the proposed Project would not have a significant traffic impact at study intersections.

Additional Project-Level Mitigation Measures

The following mitigation measure is required to reduce temporary construction-related traffic impacts.

MM TRF-1 During demolition and grading activities for the Lot 15, Warren Hall, UNEX and Bradley sites, UCLA shall restrict the total combined number of heavy trucks trips to no more than 24 passenger car equivalents per hour between 7:00 AM and 9:00 AM. This requirement shall be included on the contractor specifications and verified by Capital Programs.

Level of Significance after Mitigation

The proposed Project would have a less than significant impact related to conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system.

Threshold 13.2	Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

The analysis of Impact 4.13-3 in Section 4.13, Transportation/Traffic, of the March 2009 LRDP Amendment Final EIR, which addressed the applicable CMP, concluded that implementation of the remaining development allocation on campus would result in significant and unavoidable impacts to a CMP-designated intersection (project and cumulative) and less than significant impacts to CMP mainline freeway segments.

The CMP was created statewide as a result of Proposition 111 and has been implemented locally by Metro. The CMP for Los Angeles County requires that the traffic impact of individual development projects of potential regional significance be analyzed. A specific system of arterial roadways plus all freeways comprise the CMP system. A total of 160 intersections in the Los Angeles County system are identified for monitoring. This section discusses the potential for the proposed Project to impact the CMP system and has been conducted according to the guidelines set forth in the 2010 CMP for Los Angeles County.

According to the CMP Traffic Impact Analysis Guidelines developed by Metro, a traffic impact analysis is required given the following conditions:

- CMP arterial monitoring intersections, including freeway on- or off-ramps, where the proposed project would add 50 or more trips during either the AM or PM weekday peak hour.
- CMP freeway monitoring locations where the proposed project would add 150 or more trips, in either direction, during either the AM or PM weekday peak hour.

Two of the 17 study intersections—Wilshire Boulevard and Sepulveda Boulevard and the Wilshire Boulevard and Beverly Glen Boulevard—are part of the list of 160 CMP arterial monitoring intersections. Based on a review of the proposed Project trip generation shown in Table 4.13-4, the proposed Project is expected to contribute minimal traffic volumes to these CMP monitoring intersections during the weekday AM and PM peak hours, as the total proposed Project trip generation is approximately 12 additional trips during the PM peak hour; there would be a reduction of trips during the AM peak hour. Further, it is expected that proposed Project traffic volume contributions to more distant CMP arterial monitoring locations would be even lower, given that proposed Project traffic would disperse across an increasing number of roadways when further from the UCLA campus. The trips generated by the proposed Project are less than the CMP threshold of 50 peak-hour trips for arterial monitoring locations. Therefore, no significant impacts would result and no further CMP analysis of these intersections is warranted.

The focus of the analysis for CMP mainline freeway segments is to determine whether project-related trips would significantly impact the freeway system according to CMP guidelines. The nearest CMP freeway monitoring stations along I-405 are I-405 south of Mulholland Drive and I-405 north of Venice Boulevard. According to the guidelines for CMP transportation impact analyses, if a proposed project fails to add 150 or more trips in either direction during the AM or PM weekday peak period, no further traffic analysis is required. The proposed Project volumes would be below the CMP freeway analysis threshold of 150 trips per direction. Therefore, no significant impacts would result, and no further CMP mainline freeway segment analysis is required.

The proposed Project would not conflict with an applicable CMP. No impact would result and no mitigation is required.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would not conflict with an applicable CMP including, but not limited to, LOS standards and travel demand measures or other standards established by the County congestion management agency for designated roads or highways.

Threshold 13.3	Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The UCLA campus is currently developed, and future development, including the proposed Project, would not increase air traffic levels or result in a change in the location of air traffic patterns resulting in substantial safety risks. Therefore, consistent with the findings of the March

2009 LRDP Amendment Final EIR, there would be no impact from implementation of the proposed Project related to air traffic patterns.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have no impact related to a change in air traffic patterns.

Threshold 13.4	Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?

The analysis of Impacts 4.13-4 through 4.13-6 in Section 4.13, Transportation/Traffic, of the March 2009 LRDP Amendment Final EIR, which addressed transportation hazards, concluded that construction activities and operations associated with implementation of the remaining development allocation on campus would result in less than significant impacts related to pedestrian and vehicular hazards during construction and to vehicular hazards during project operation.

Vehicular Hazards During Construction

The proposed housing projects are on campus. With the exception of improvements to the bus stop along the north side of Weyburn Avenue associated with the Warren Hall site and elimination of vehicular access to the UNEX site from Levering Avenue (access would continue to be provided from Gayley Avenue), the proposed housing projects do not propose long-term changes to public roadways, service roads, or other vehicular circulation routes. As described in Section 3.0, Project Description, of this Draft SEIR, vehicular access to the proposed housing projects includes the following:

- **Lot 15 Site.** Access to Lot 15 is currently provided from a driveway at De Neve Drive. This would continue to be the vehicular access point with implementation of the proposed housing development; no access would be provided from Veteran Avenue.
- **Warren Hall Site.** Access to Warren Hall is currently provided from Weyburn Place, which forms the northeastern boundary of the site. This roadway would also provide vehicular access to the proposed housing development. The location of the curb ramp and traffic signal would remain in place. During construction, the UCLA-owned access road, South Lane (north of Weyburn Avenue, off Veteran Avenue), would be restricted to construction vehicles and construction workers. Non-construction vehicle traffic would be directed to other access roads in the Weyburn Terrace complex.

  The Weyburn Bruin Bus stop turnout/bus pullout (at the northeast corner of Weyburn Avenue and Weyburn Terrace Lane intersection) on the north side of Weyburn Avenue at the intersection with Weyburn Terrace would be widened so that the buses, when stopped, do not obstruct the travel lanes. The bus stop would be maintained until later in the construction phase. During the modification, it is anticipated that the bus stop would be temporarily located on the northwest corner of the intersection with signage for both pedestrians and regular vehicles. To facilitate the uses of the transit services, the paved waiting area would be enlarged as part of the proposed Project.

- **UNEX Site.** Access to the UNEX site is currently provided from Levering Avenue and Gayley Avenue. With implementation of the proposed housing development, vehicular access would be provided from a driveway at Gayley Avenue.
- **Bradley Site.** The Bradley site is currently undeveloped, and there is no existing vehicular access to the site. With implementation of the proposed housing development, vehicular access would be provided from a driveway at Charles E. Young Drive West; no vehicular access would be provided from Strathmore Drive or Gayley Avenue.
- **Drake Stadium Site.** Charles E. Young Drive North and Charles E. Young Drive West form the northern and western boundaries of the site, respectively; however, there is currently no direct vehicular access from these roadways to the site (concourse area). Consistent with existing conditions, vehicular access would not be provided to the proposed housing development.

Construction activities associated with the proposed housing projects could result in the temporary closure of traffic lanes or roadway segments in the vicinity of the proposed housing sites during various construction activities, including, but not limited to, accommodating the delivery of construction materials and equipment; providing adequate site access for construction vehicles and equipment; and installation of utility infrastructure, including upgrades to sewer lines in Veteran Avenue, Gayley Avenue, and Weyburn Avenue (refer to Figure 3-19 in Section 3.0, Project Description, of this Draft SEIR).

The reduction of roadway capacity, the narrowing of traffic lanes, and the occasional interruption of traffic flow on streets associated with proposed Project-related construction activities could pose hazards to vehicular traffic due to localized traffic congestion, decreased turning radii, or the condition of roadway surfaces. To minimize traffic disruption and congestion, the construction traffic routes for the proposed housing developments were designated to minimize affected roadways and efficiently move traffic through the campus and project areas. In addition, implementation of PP 4.13-5, which requires maintenance of one travel lane in each direction (to the extent feasible) and/or the provision of signal carriers (i.e., flagpersons) when only a single lane can be maintained, ensures that impacts associated with a construction-related traffic lane or roadway closures remain less than significant, consistent with the findings of the March 2009 LRDP Amendment Final EIR.

Pedestrian/Bicyclist Hazards During Construction

As discussed previously, there are existing sidewalks, pedestrian pathways, and bikeways adjacent to or near each of the proposed housing sites. To avoid conflicts/potential hazards to pedestrians and bicyclists during construction, sections of sidewalk or bikeways adjacent to the proposed housing sites may be closed during portions of the construction period. Pedestrians and bicyclists in a particular area would be directed to the nearest sidewalk or an alternate pathway. Safe pedestrian and bicycle movement within and around the proposed housing sites and access to the nearby uses would be maintained as efficiently as possible. With incorporation of PP 4.13-6 into the proposed Project, which requires appropriate signage of alternate routes, there would be less than significant impacts related to pedestrian and bicyclist hazards during construction, consistent with the findings of the March 2009 LRDP Amendment Final EIR.

Vehicular Hazards During Operation

As previously identified, with the exception of improvements to the bus stop along the north side of Weyburn Avenue associated with the Warren Hall site, and elimination of vehicular access to the UNEX site from Levering Avenue, the proposed Project does not include permanent

modifications to on-campus or City of Los Angeles roadways. The proposed modification at the Bruin Bus stop along Weyburn Avenue would improve existing conditions. The bus turnout/bus pullout would be widened so that the buses, when stopped, do not obstruct the travel lanes. The elimination of the existing driveway at the UNEX site along Levering Avenue would eliminate cars entering and exiting at this location under existing conditions, potentially improving traffic flow at this location. The Bradley and Drake Stadium sites currently do not have vehicular access; a service driveway would be added for access to the Bradley site from Charles E. Young Drive West, but no vehicular access would be added on the Drake Stadium site. There would be limited use of the Bradley access driveway, and the design would ensure sufficient sight distance for motorists.

Therefore, implementation of the proposed Project would not increase hazards due to design features or incompatible uses. Consistent with the findings of the March 2009 LRDP Amendment Final EIR, operation of the proposed Project would result in a less than significant impact related to vehicular hazards.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have less than significant impacts related to a substantial increase in hazards due to a design feature or incompatible uses.

Threshold 13.5	Would the project result in inadequate emergency access?

The analysis of Impacts 4.13-7 and 4.13-8 in Section 4.13, Transportation/Traffic, of the March 2009 LRDP Amendment Final EIR, which addressed emergency access, concluded that construction and operational activities associated with implementation of the remaining development allocation on campus would result in less than significant impacts to emergency access with implementation of PP 4.13-8.

Emergency Access During Construction

Each of the proposed housing sites is located adjacent to existing roadways or access roads that accommodate emergency access. The access road/fire lane serving the Southern Regional Library and the Sycamore Tennis Courts and the access road/fire access along the north boundary of the Lot 15 site, each with access from De Neve Drive, would remain open during construction. Additionally, there is a driveway along Veteran Avenue (across from Cashmere Street) that is available for emergency access only; no construction traffic is permitted to use this access point. For the Warren Hall site, the UCLA-owned access road, South Lane, would be restricted to construction vehicles and construction workers and would serve as emergency access during construction. Emergency access would also continue to be provided from adjacent roadways (Weyburn Place, Weyburn Terrace and Weyburn Avenue). Similarly, the existing roadways surrounding the UNEX, Bradley, and Drake Stadium sites (Levering Avenue, Gayley Avenue, Le Conte Avenue, Charles E. Young Drive West, Strathmore Drive, and Charles E. Young Drive North) would continue to provide the primary emergency access to the proposed housing sites during construction.

Construction activities may result in temporary closure of traffic lanes or roadway segments along these roadways to permit delivery of construction materials; to transport soil; to accommodate the

installation of utility infrastructure; or to provide adequate site access. The reduction of roadway capacity, the narrowing of traffic lanes, and the occasional interruption of traffic flow could impair emergency access. Construction activities would be planned so that access for emergency vehicles is maintained at all times. Additionally, implementation of PP 4.13-8 as part of the proposed Project would require consultation with emergency service providers in the event of lane or street closures. Therefore, consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be less than significant impacts related to emergency access during construction of the proposed Project.

Emergency Access During Operation

With implementation of the proposed Project, emergency access points for the Lot 15, Warren Hall, and Drake Stadium sites would be maintained. At the UNEX site, emergency access from Levering Avenue would be removed, but access via Gayley Avenue would be maintained. Emergency access from a driveway at Charles E. Young Drive West would be established for the Bradley site, as there is currently no vehicular access to the site. Consistent with the campus' standard procedures, the Campus Fire Marshal would review and approve the proposed housing projects to ensure that circulation and design features allow adequate emergency vehicle access in compliance with the *California Building Code.* Therefore, consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be less than significant impacts related to emergency access during operation of the proposed Project.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The propose Project would have less than significant impacts related to emergency access.

Threshold 13.6	Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The analysis of Impact 4.13-12 in Section 4.13, Transportation/Traffic, of the March 2009 LRDP Amendment Final EIR, which addresses alternative transportation policies, concludes that, with implementation of PP 4.13-1(c) and PP 4.13-1(d), implementation of the remaining development allocation on campus would result in less than significant impacts related to a conflict with adopted policies, plans, or programs supporting alternative transportation.

As noted previously, the UCLA TDM program is a comprehensive program that offers a broad range of services to encourage and assist UCLA commuters in utilizing alternatives to the single-occupancy vehicle. To reduce vehicular trips, the existing UCLA TDM program would also serve the proposed Project (staff and students), consistent with PP 4.13-1(d), which is incorporated into the proposed Project. As part of the TDM program, UCLA actively provides and promotes vanpools; carpool matching and parking incentive programs; financial incentives for carpool and vanpool participants; accommodation of the use of other modes of transit, including bicycles, motorcycles, and scooters; alternative work schedules and telecommuting; a car share program; annual distribution of the UCLA Commuter's Guide; parking control management; and access restriction to main campus parking facilities for on-campus student residents.

The location of the proposed housing projects on campus and in the vicinity of pedestrian, bicycle and public transit facilities, supports UCLA's TDM program and use of non-vehicular modes of transportation consistent with policies, plans, and/or programs regarding public transit, bicycle, and pedestrian facilities. As further discussed in Section 4.9, Land Use and Planning, of this Draft SEIR, and shown in Figure 4.9-3, each of the proposed housing sites is located in a designated High Quality Transit Area (HQTA),[3] and the Warren Hall, UNEX, and Bradley sites are also in existing Transit Priority Areas, which are areas within 0.5-mile of a major transit stop. As identified previously, there are numerous public transit lines that serve the campus and would be accessible to staff, students, and visitors of the proposed housing developments. Additionally, the BruinBus stop along Weyburn Avenue would be improved with implementation of the proposed housing project at the Warren Hall site.

As shown in Table 4.13-4, the proposed Project trip generation reflects a public transit/walk/bicycle adjustment of 25 percent for the proposed Project's 145 employees. Conservatively assuming that all of these trips are made via public transit, this adjustment amounts to 72 net vehicles reduced by transit per day, including 13 AM peak-hour and 15 PM peak-hour trips. Per the 2010 CMP guidelines, person transit trips can be estimated by multiplying the transit vehicle trip reductions by a conversion factor of 1.4 (Metro 2010). Therefore, the number of net proposed Project person transit trips would be approximately 101 daily person transit trips, with 18 AM peak-hour and 21 PM peak-hour person transit trips. Based on information from the 2016 UCLA Student Transportation Survey, person transit trips from the proposed Project's student population have conservatively been excluded given that the reduction in person transit trips from the loss of 1,900 commuter students would exceed the gain in person transit trips from the addition of 6,900 resident students. A review of the existing bus transit lines and service summarized in Table 4.13-2 indicates that an average of over 100 buses operate during the AM and PM peak hours with bus stops within a reasonable walking distance of the proposed housing sites. This means that the net proposed Project person trips added to transit would average less than 0.2 person per bus during the peak hours. This minor addition of proposed Project person trips to transit would not result in a significant transit impact (Crain 2017).

With respect to bicycle and pedestrian facilities, after construction is complete, the proposed Project would not result in any modifications to these non-vehicular travel modes of travel and would enhance the connections through the proposed housing sites to adjacent facilities. Notably, at the Lot 15 site, a pedestrian bridge connection would be provided from the Lot 15 site to the street level on De Neve Drive.

Therefore, the proposed Project would support and would not conflict with adopted PPs supporting alternative transportation. Potential impacts would be less than significant, consistent with the findings of the March 2009 LRDP Amendment Final EIR. No mitigation is required.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have less than significant impacts related to conflicts with applicable policies, plans, or programs supporting alternative transportation.

[3] A High Quality Transit Area is a place where people live in compact communities and have ready access to a multitude of safe and convenient transportation alternatives to driving alone—including walking and biking, taking the bus, light rail, commuter rail, the subway, and/or shared mobility options.

4.13.4 CUMULATIVE IMPACTS

The geographic context for the analysis of cumulative transportation/traffic impacts includes future development on the UCLA campus (approved projects and potential future development based on the remaining development allocation of 174,615 gsf in the Existing LRDP), and other future development within the general boundaries of the community of Westwood and surrounding areas in the City of Los Angeles (refer to Section 4.0, Introduction to the Environmental Analysis, of this Draft SEIR).

Cumulative development has the potential to result in significant cumulative traffic impacts. Regional plans to improve some of the cumulative traffic conditions have been developed in the Southern California Association of Governments (SCAG) *2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS)*, the Los Angeles County CMP, and the transportation elements of the Los Angeles General Plan, the West Los Angeles Transportation Improvement and Mitigation Specific Plan, the Westwood Community Plan, and certain interim control ordinances. However, this Draft SEIR does not assume implementation of any unfunded improvement or programs. Regardless, during operation, the proposed Project would have a net decrease of 24 trips in the AM peak hour and a net increase of 12 trips in the PM peak hour and would not result in any significant traffic impacts at study intersections. Therefore, operation of the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative traffic impact. This cumulative impact would be less than significant.

As further discussed in Section 4.0 of this Draft SEIR, the proposed Project would be under construction at the same time as one or more previously approved UCLA projects, including the Margan Apartments Redevelopment Project in the Bridge zone (adjacent to the Warren Hall and UNEX sites), the Anderson School of Management Building Addition Project in the Core zone (east of the Drake Stadium site), and the UCLA Geffen Academy in the Southwest zone. Interior renovations related to the Geffen Academy are anticipated to be completed in September 2018; thus, the period of heavy truck traffic for the proposed Project would not occur at the same time as the heavy truck traffic for this project. The Margan and Anderson projects would complete demolition, grading, and site preparation before summer 2018 and, therefore, before the initiation of demolition, grading, and site preparation for the proposed housing developments. Grading and site preparation for the Drake Stadium and Bradley sites is expected to commence in fall of 2022 and spring of 2023, respectively, and would not overlap each other or the remaining three proposed housing developments.

However, as previously discussed, the period of heavy truck traffic for the Lot 15, Warren Hall, and UNEX sites would overlap generally in the fall of 2018 for approximately one month and would generate approximately 50 car-equivalent trips during the AM peak hour. Construction at the Bradley site would generate approximately 40 car-equivalent trips during its 3 month grading period. The truck traffic would pass through intersections that are currently deficient during the AM peak period, resulting in a temporary significant impact. This impact is mitigated to a less than significant level by restricting the truck trips to no more than 24 car-equivalent trips per hour between 7:00 AM and 9:00 AM (refer to MM TRF-1). Additionally, the proposed Project, along with other construction projects on campus, incorporates PP 4.13-2 (which requires coordination of major construction projects on and adjacent to campus). However, due to the potential overlap between the proposed Project construction and other current and future on- and off-campus construction projects, it is conservatively assumed that the net effect of the proposed Project's construction activities and cumulative projects could result in localized traffic impacts in the vicinity of campus at intersections that provide access to the campus. While the proposed Project's impact is less than significant, the Project's contribution to significant cumulative construction-related traffic impacts is considered a significant cumulative impact. Beyond the project-level

mitigation that has been imposed, there is no other feasible mitigation. Additionally, UCLA does not have control over the construction activities for non-University projects in the area.

By its nature, the Los Angeles County CMP is a cumulative scenario that considers the impact of single projects in the context of cumulative traffic demand on CMP facilities. Cumulative impacts at CMP arterial monitoring stations and freeway mainline segments are therefore addressed under Threshold 13.2. As identified, the proposed Project would not result in a significant impact at designated CMP arterial monitoring stations or designated CMP freeways.

It is anticipated that future development of the cumulative projects in the City of Los Angeles would be required to adhere to standard engineering practices and requirements and would be subject to City of Los Angeles planning and design review to avoid traffic hazards created by design features and land use incompatibilities. For this reason and because such impacts (if and where they occur) are relatively site specific, cumulative impacts associated with such traffic hazards are less than significant. As discussed under Threshold 13.4, the proposed Project would not result in the need for any new roadway segments or substantive changes in roadway configuration. All design development under the proposed Project would include the use of standard engineering practices to avoid design elements that would increase roadway hazards. Moreover, development of the proposed Project would not result in land use incompatibilities that would lead to the creation of traffic hazards. For these reasons, the proposed Project's contribution to any cumulative impacts from traffic hazards is also less than significant.

Due to the dispersed location of future development (including the cumulative projects) and the anticipation that the related projects would be required to implement safety and access measures during construction (in accordance with City of Los Angeles requirements), cumulative impacts associated with vehicular and pedestrian hazards during construction are expected to be less than significant. The analysis under Threshold 13.4 discusses the proposed Project's potential to increase vehicular or pedestrian hazards as a result of the closure of traffic lanes, roadway segments, or sidewalks. As indicated, UCLA projects are required to incorporate PP 4.13-5 (which requires maintenance of one travel lane in each direction, as feasible) and/or the provision of signal carriers (i.e., flagpersons) when only a single lane can be maintained; PP 4.13-6 (which requires that when there is any construction-related closure of pedestrian routes, the campus provide appropriate signage indicating and alternative route and provide curb cuts and street crossing to assure alternate routes are accessible); and PP 4.13-8 (which requires consultation on lane or roadway closures to minimize potential hazards during construction),to maintain safety and accessibility during construction periods. As a result, these potential construction-related impacts related to vehicular and pedestrian hazards, which are localized at the area of construction activity, would remain less than significant, making the proposed Project's contribution to cumulative impacts less than significant.

It is anticipated that development associated with cumulative projects and other future development would result in an increased demand on alternative transportation although, due to the locations of the various related projects, it is expected that cumulative increases in demand would be distributed among the various bus routes that serve the area. While it is possible that ridership demand on a particular bus route associated with future development could be significant when compared to existing conditions, it can generally be expected that cumulative impacts on bus service would be less than significant as a whole. Impacts of the proposed Project on alternative modes of transportation are discussed as Threshold 13.6. The contribution of the proposed Project to cumulative impacts on alternative modes of transportation is less than significant.

4.13.5 REFERENCES

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4.14 UTILITIES AND SERVICE SYSTEMS

This section evaluates the effects on utilities and service systems related to implementation of the proposed Project. Utilities and service systems addressed in this section include water infrastructure, domestic water supply, wastewater conveyance infrastructure and treatment, solid waste disposal, electrical infrastructure and supply, and natural gas infrastructure and supply. The capacity of the storm drain infrastructure is discussed in Section 4.3, Hydrology and Water Quality, of this Draft Subsequent Environmental Impact Report (SEIR).

Information used to prepare this section includes the *UCLA LRDP Amendment (2017) and Student Housing Projects Water Supply Assessment (WSA)* (2017) included in Appendix I of this Draft EIR; utility demands estimated for the proposed housing projects; the analysis of campus-wide utilities presented in Section 4.14, Utilities and Service Systems, in the March 2009 Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (EIR); and other sources as cited in this section and listed in Section 4.14.6, References.

Relevant elements of the proposed Project related to utilities and service systems include the development of 5 on-campus student housing projects with the construction of approximately 1,715,000 gross square feet (gsf) of new building space, or a 1,500,000 gsf net increase after demolition of approximately 215,000 gsf of existing buildings, providing a total of 6,900 beds. The existing buildings to be demolished were constructed between 1958 and 1975 and do not comply with current, more stringent, energy standards. The proposed housing projects would each be designed to meet the UCLA minimum standard of a U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED™) Silver rating for New Construction (NC); however, UCLA would strive to achieve this rating. The proposed housing developments would also comply with California Green Building Standards Code (CALGreen) Tier 2 voluntary measure requirements and would participate in the Savings by Design building performance incentive program administered by public energy utility under the auspices of the California Public Utilities Commission (CPUC). The design, construction, and operation of the proposed housing projects would include a series of green building strategies under development, along with mandatory strategies required by CalGreen and UC Policy on Sustainable Practices, to exceed California Building Code (CBC) Title 24 energy efficiency requirements by 20 percent.

These project characteristics, and the discussion in this section related to the development of energy efficient buildings as part of the proposed Project, demonstrate how the proposed Project avoids or otherwise reduces inefficient, wasteful, and unnecessary consumption of energy per CEQA Guidelines and Statute Appendix F and section 21100(b)(c). Further discussion of energy conservation is provided in Section 6.7 of this Draft SEIR.

There were no Notice of Preparation comment letters received that addressed utilities or service systems.

4.14.1 ENVIRONMENTAL SETTING

The following discussion of environmental setting is summarized from the March 2009 LRDP Amendment Final EIR (Section 4.16, Utilities and Service Systems). Updated information or relevant information specific to the project site has been provided, as appropriate.

Domestic Water

Los Angeles Department of Water and Power

The following information is summarized from the WSA included in Appendix I of this Draft SEIR (Psomas 2017). Detail information about water demands, water supply, and water supply reliability is provided in the WSA.

Water Demands

Water demands in Southern California are largely influenced by dry-weather conditions that typically result in water conservation to reduce water demands. Since 1988, Los Angeles has utilized ordinances as a tool to reduce water waste, beginning with the adoption of its first version of a plumbing retrofit ordinance.

Since the previous 2010 UWMP update, southern California's urban water demand has been largely shaped by efforts to comply with the Water Conservation Act of 2009 (SBx7-7). This law requires all California retail urban water suppliers serving more than 3,000 acre-feet per year (AFY) or 3,000 service connections to achieve a 20 percent water demand reduction (from a historical baseline) by 2020. Meeting this target is critical to ensure LADWP's eligibility to receive future state water grants and loans. As part of SBx7-7, water agencies needed to achieve an interim target of 10 percent water demand reduction by 2015.

California endured one of the most severe droughts in the State's history between 2012 and 2016. The drought emergency officially ended in April 2017 per Governor Jerry Brown's Executive Order B-40-17. In response to the drought, Governor Brown issued Executive Order B-29-15 in April 2015, requiring a collective reduction in statewide urban water use of 25 percent by February 2016, with each water agency in the State including LADWP given a specific reduction target by the California Department of Water Resources (DWR). In response to this and other factors, Los Angeles released its first ever Sustainable City "pLAn" that focuses on sustainability, with special focus on the environment, the economy, and equity. The pLAn incorporates water savings goals as follows:

- By 2017, reduce per capita potable water use by 20 percent
- By 2025, reduce per capita potable water use by 22.5 percent
- By 2035, reduce per capita potable water use by 25 percent

The pLAn extends the purchased imported potable water use reduction goal to 2025 and sets an additional goal of increasing local water sources to 50 percent by 2035. Expansion of recycled water use to offset potable demands has been recognized as one method that will help achieve these goals. Concurrently, the pLAn also establishes specific goals for recycled water use including: (1) expanding recycled water by an additional 6 mgd by 2017 at the Terminal Island Water Reclamation Plant, (2) converting 85 percent of public golf courses to recycled water, (3) developing a strategy to convert the City's lakes to recycled water, and (4) expanding recycled water production, treatment, and distribution to incorporate indirect potable reuse and direct potable reuse.

Achieving these goals will reduce the City's reliance on imported water while providing a drought-proof resource that is not subject to weather conditions. This aggressive approach includes multiple strategies: investments in state-of-the-art technology; a combination of rebates and incentives promoting installation of water-efficient appliances such as weather-based irrigation controllers; efficient clothes washers, toilets and urinals; expansion and enforcement of prohibited

water uses; reductions in outdoor water use; extending education and outreach efforts; and encouraging regional conservation.

Through water conservation measures, LADWP's water use in FY 2015 of 114 gallons per capita per day (GPCD) was significantly less than its SBx7-7 targets of 148 GPCD for 2015 (target achieved) and 142 GPCD for 2020 (target on-track to be achieved). The City was also able to meet its reduction target per Executive Order B-29-15.

In their 2015 UWMP, LADWP developed a water demand forecast through the year 2040 with passive conservation including codes, ordinances, and conservation phases for each of the major categories of demand. To achieve the more stringent pLAn water use targets, additional water conservation can come from increasing active conservation led by LADWP, as well as additional passive conservation.

Water Supply

The Los Angeles Aqueducts (LAA), local groundwater, purchased imported water from the Metropolitan Water District of Southern California (Metropolitan), and recycled water are the primary sources of water supplies for the City. LADWP sources of supply for the 5-year period FY 2011 through FY 2015 consisted of Metropolitan imported water (57 percent); LAA (29 percent); groundwater (12 percent); and recycled water (2 percent).

Snowmelt runoff from the Eastern Sierra Nevada Mountains is collected and conveyed to the City via LAA. LAA supplies come primarily from snowmelt and secondarily from groundwater pumping, and can fluctuate yearly due to the varying hydrologic conditions. In recent years, LAA supplies have been less than the historical average because of environmental restoration obligations in Mono and Inyo Counties.

A key resource the City has relied upon as a major component of its local water supply portfolio is local groundwater. Over the last five years, local groundwater has provided approximately 12 percent of the total water supply for Los Angeles, and since 1970 has provided up to 23 percent of total supply during extended dry periods when imported supplies become less reliable. The Upper Los Angeles River Area (ULARA) watershed is the principal groundwater resource where the City produces local groundwater from the San Fernando and Sylmar Basins. The City also produces local groundwater from the Central Basin and is entitled to produce water from the neighboring West Coast Basin. All of these basins are adjudicated by judicial decrees of the Superior Court of the State of California. LADWP groundwater production is projected to increase by approximately 70 percent by 2040; not including up to 15,000 AFY of pumping anticipated to occur in the San Fernando Basin via stormwater recharge, and 30,000 AFY of additional groundwater recharge anticipated to occur through recharge with highly treated water from the Donald C. Tillman Water Reclamation Plant (planned for 2024 and beyond).

Metropolitan imports a portion of its water supplies from Northern California through the State Water Project's (SWP) California Aqueduct, and from the Colorado River through Metropolitan's own Colorado River Aqueduct (CRA). LADWP will continue to rely on Metropolitan to meet its current and future water needs, but will focus on expanding local sources of supply in order to be less dependent on imported water. The record dry and hot conditions of 2014 significantly impacted the water resources of both the State and Metropolitan; however, Metropolitan was able to meet demands in 2014 by relying heavily on storage reserves to make up for the historically low SWP allocation.

On April 14, 2015, to support Governor Jerry Brown's Executive Order B-29-15, and to reduce withdrawals from Metropolitan's dry-year storage reserves, Metropolitan implemented its Water

Supply Allocation Plan (WSAP) at a Level 3 Regional Shortage Level (15 percent reduction), effective July 1, 2015, though June 30, 2016. On May 10, 2016, citing the improved water supply conditions and reduced water use due to conservation, Metropolitan voted to end the WSAP allocation and rescind WSAP Regional Shortage Level 3 for allocation year 2016/17. Metropolitan, however, called for member agencies to continue with conservation efforts to safeguard against future dry years.

Purchases from Metropolitan have averaged 57 percent of the City's water supply over the five-year period from fiscal year (FY) 2011 to FY 2015. The Sustainable City pLAn calls for a reduction in purchased imported water by 50 percent by 2025 from the FY 2014 level by reducing water demand through increased conservation; increased local supply development; and increased recycled water production and use. The City has a goal to have a 75,400 AFY supply of recycled water by 2040 to off-set imported water use. This will increase recycled water use in the City more than six-fold as a percentage of supply, from the current 2 percent to 13 percent by 2040. LADWP's 2015 Urban Water Management Plan (UWMP) projects stormwater capture to increase in the City by approximately 35,000 AFY by the year 2035 through the implementation of centralized stormwater capture projects. A minimum of 15,000 AFY of increased groundwater pumping in the San Fernando Basin is projected from stormwater recharge by the year 2040.

Reliability of Water Supplies

To determine the overall service area reliability, LADWP defined three hydrologic conditions: average year (50-year average hydrology from FY 1962 to 2011 (normal year)); single-dry year (such as a repeat of the FY 2015 drought); and multi-dry year (such as a repeat of FY 2013 to FY 2015). These defined conditions are used to determine the corresponding level of water supply. Based on the UWMP, with its current water supplies, planned future water conservation, and planned future water supplies, LADWP will be able to reliably provide water to its customers through the planning period ending in FY 2040. The normal year, single-dry year, and multiple-dry year water supply reliability summaries are shown in Table 4.14-4, Table 4.14-5, and Table 4.14-6, respectively, of the WSA included in Appendix I. LADWP's reliability projections account for water quality issues with source waters and the impacts of climate change on both supplies and demands.

LADWP's 2015 UWMP projects the City's locally developed supplies including groundwater, groundwater replenishment, stormwater capture, and water conservation will increase from 14 percent (as an average for FY 2011-2015) to 47 percent in FY 2040 during normal-year conditions; and to 49 percent in FY 2040 during dry-year conditions. These local supplies are not influenced by variability in hydrology, and will become the cornerstone of LADWP's future water supplies. As a result, the City's combined imported supplies are projected to decrease significantly from 86 percent (FY 2011-2015) to 51 percent in FY 2040 for dry years; and to 53 percent in FY 2040 under normal conditions.

The City's imported supplies are impacted by hydrology. The LAA has limited storage capacity, which means it is very susceptible to variations in hydrology, while Metropolitan (with much greater storage capacity) can provide a water supply to the City that is less susceptible to hydrologic conditions. By FY 2040, LAA deliveries are projected to be 7 percent in dry years, and 42 percent in normal years. Metropolitan will make up the remaining 44 percent in dry years, and provide 11 percent of the City's water supply needs in normal years.

Through the Integrated Resources Plan (IRP) and subsequent updates including the 2015 update, Metropolitan has worked toward identifying and developing water supplies to provide 100 percent reliability. Due to competing needs and uses for all of the water sources and regional water operational issues, Metropolitan has undertaken a number of planning processes: the Integrated

Resources Planning (IRP) Process, the Water Surplus and Drought Management (WSDM) Plan, the Urban Water Management Plan, and the Water Supply Allocation Plan (WSAP). Combined, these documents provide a framework and guidelines for optimum water planning into the future. These programs are further described in the WSA included in Appendix I of this Draft SEIR.

University of California, Los Angeles Campus

Water Consumption

The LADWP supplies water to the UCLA campus and ensures that the water meets all applicable State water quality standards. In 2007, the total campus water consumption was approximately 2.34 million gallons per day (mgd, UCLA 2009). Water consumption on campus for 2015–2016 was 2.63 mgd, which is still below the total water consumption projected in the March 2009 LRDP Amendment Final EIR (2.75 mgd) assuming buildout of the campus based on the 2002 LRDP, as amended in March 2009 (Existing LRDP). Approximately 80 to 85 percent of total campus water consumption is attributed to indoor use, with approximately 15 percent used for landscape irrigation. The largest portion of indoor water use is attributable to mechanical equipment used to cool campus buildings using the Cogeneration Plant cooling towers, steam boilers, and other stand-alone chiller equipment. Other indoor water uses include residence halls, research laboratories, medical and patient care activities, dining facilities, restrooms, gymnasium showers and swimming pools, custodial areas, and drinking fountains.

The existing water demand for the Warren Hall and UNEX housing sites was metered at 963 gpd and 6,037 gpd, respectively, for calendar year 2016 (Middleton 2017). There is minimal water demand at the other three housing sites.

Water Conservation Efforts

The current version of the University of California (UC) Sustainable Practices Policy (Policy), which became effective on June 2, 2017, establishes a goal for each campus to reduce growth-adjusted potable water consumption 20 percent by 2020 and 36 percent by 2025, when compared to a 3-year average baseline of fiscal year (FY) 2005/06, FY 2006/07, and FY 2007/08 (UCOP 2017). UCLA's water conservation efforts have reduced annual water use by over 70 million gallons since 2000, bringing it about half way to the 2020 target (UCLA 2017b).

UCLA has a comprehensive approach to water conservation, which includes water recycling, high efficiency fixtures such as ultra-low flow urinals, drought-tolerant landscaping, and smart climatologically based irrigation and drip irrigation. The campus also has a process whereby condensate water from mechanical equipment (such as air circulation fans) at the Center for the Health Sciences is captured for use in the Environmental Services Facility (ESF) cooling system. UCLA recycles approximately 50 percent of cooling water used in the ESF (chiller/Cogeneration facility) and continues to achieve reductions in water usage for cooling campus buildings. The campus has continued to improve its cooling water treatment program through alterations to water chemistry, thereby extending the number of times the water can be recycled through the system.

The UC Policy also requires campuses to develop and maintain a Water Action Plan (WAP) that identifies long-term strategies for achieving sustainable water systems. UCLA's current WAP (prepared in 2013) is currently being updated to identify current initiatives, strategies, and progress to meet the established goals.

Infrastructure (Domestic, Fire, and Irrigation Water)

Following is a description of the existing water infrastructure (domestic, fire, and irrigation) serving the proposed housing sites; existing infrastructure is also depicted on the site surveys presented in Figures 3-3 through 3-7 in Section 3.0, Project Description, of this Draft SEIR.

- **Lot 15 Site.** There is an existing 8-inch water main in De Neve Drive, which branches off to an 8-inch main in the access road/fire lane that runs along the site's eastern and southern boundaries. There is an existing fire hydrant on the west side of the access road/fire lane, east of the proposed facilities storage building.
- **Warren Hall Site.** There is an existing 12-inch water main in the east/west drive lane north of the site that runs along Weyburn Terrace and South Lane. There are existing fire hydrants on the corner of South Lane and Weyburn Terrace, north of the site between the Weyburn Terrace turnaround and private drive lane, and two hydrants on Weyburn Place along the project frontage.
- **UNEX Site.** There is an existing 8-inch water main in Gayley Avenue and an existing 6-inch water main in Levering Avenue. There is an existing fire hydrant on Gayley Avenue.
- **Bradley Site.** There is an existing 8-inch water main in Gayley Avenue and 12-inch water line in Charles E. Young Drive West. There is an existing service line from the 8-inch water line in Gayley Avenue that passes through the northwest portion of the site to Bradley Hall.
- **Drake Stadium Site.** There is an existing 8-inch water main in Charles E. Young Drive West.

Wastewater

City of Los Angeles

As described in Section 4.14.3 of the March 2009 LRDP Amendment Final EIR, the City of Los Angeles provides wastewater transmission facilities from the campus to the City of Los Angeles' Hyperion Water Reclamation Plant (HWRP; formerly Hyperion Treatment Plant), located in Playa del Rey, directly west of the Los Angeles World Airport. The HWRP treats wastewater from Santa Monica, Beverly Hills, Burbank, Culver City, El Segundo, Glendale, San Fernando, portions of unincorporated Los Angeles County, 29 contract agencies, and most of the City of Los Angeles. The neighboring cities and agencies contract with the City of Los Angeles to treat their wastewater at the City's facilities. The HWRP has a design capacity of 450 mgd and, in 2016, treated an average of 258 mgd to primary and secondary treatment standards (LA Sanitation 2017b; Kim 2017). Therefore, the HWRP currently operates at approximately 57 percent of its capacity.

University of California, Los Angeles Campus

As described in Section 4.14.3 of the March 2009 LRDP Amendment Final EIR, the UCLA Capital Programs Department determines utility needs and plan improvements to the campus sanitary sewer system. System conveyance enhancements are made, as appropriate, in conjunction with project-specific development requirements. The UCLA Office of Environmental Health & Safety (EH&S) ensures compliance with industrial wastewater regulations and oversees a campus-wide program that teaches and enforces procedures for proper industrial wastewater disposal. UCLA's Facilities Management Department maintains the campus sanitary sewer system.

Thirteen separate sewer lines, which generally run in a north-south direction, serve campus buildings. The lines vary in size from 6 inches to 21 inches in diameter. In addition, there are various minor laterals along the campus' perimeter that connect a building or a number of

buildings directly to the off-site (i.e., City) sewer mains. There are five locations where campus sewer lines connect to the City of Los Angeles' lines along the southern portions of the campus (and identified as points C, D, E, M, and AA in Figure 4.14-1 in the March 2009 LRDP Amendment Final EIR). Relevant to the proposed housing sites, connection point AA is located at Gayley Avenue/Weyburn Avenue, and connection point M is located along Veteran Avenue just north of Wilshire Avenue. The Sanitary Sewer Study (sewer study) determined, as of 2008, that the average and peak flows at the five sewer locations where UCLA wastewater flows connect to the City's sewer lines were operating at or below each pipeline's design capacity (UCLA 2009). These include flows from upstream of UCLA that run through the UCLA sewer lines, as well as the UCLA campus. Based on a current review of the sewer system serving the proposed housing sites, it has been determined that existing sewer lines at the UNEX site have capacity to accommodate the project. For the Lot 15, Drake, Bradley, and Warren Hall projects, an upgrade of City sewer lines in either Veteran or Gayley Avenues would be required. Required sewer line upgrades are further discussed under the analysis for Threshold 14.2 in Section 4.14.3, below.

As previously discussed, the campus has implemented water conservation programs that have resulted in substantial decreases in water use. Because wastewater generation is directly related to water use, the reduction in water use is estimated to have resulted in an associated decrease in wastewater generation. Based on the water demand at the Warren Hall and UNEX sites, it is estimated that the current wastewater generation at these sites is 837 gpd and 5,250 gpd, respectively.

Following is a description of the existing sewer infrastructure serving the proposed housing sites; existing infrastructure is also depicted on the site surveys presented in Figures 3-3 through 3-7 in Section 3.0, Project Description, of this Draft SEIR.

- **Lot 15 Site.** There are currently no sewer mains on De Neve Drive, or the adjacent access road/fire lane. There is an existing sewer manhole which is the start of an 8-inch main located in the fire lane adjacent to the southeast corner of the Sycamore Tennis Courts. This line continues west and connects to the City of Los Angeles (LA Sanitation) 10-inch main in Veteran Avenue. There is an existing 4-inch sewer line serving the Housing Maintenance Building, which connects to the manhole adjacent to the Sycamore Tennis Courts; however, this line is damaged and not expected to be salvageable. There is also an existing 8-inch sewer line serving Hitch Suites, which runs south of the site, continues west, and connects to the 10-inch LA Sanitation main in Veteran Avenue.
- **Warren Hall Site.** There is an 8-inch sewer main that starts north of the site in the east/west private drive aisle. The sewer flows west and turns south at the turnaround down Weyburn Terrace and turns west at South Lane and ultimately connects to the LA Sanitation 12-inch sewer main in Veteran Avenue. There is a separate 8-inch sewer main on Weyburn Avenue, which also connects to the LA Sanitation 12-inch main in Veteran Avenue.
- **UNEX Site.** The existing UNEX building is served by an 8-inch sewer main in Le Conte Avenue, along the southern site boundary, which runs east and connects to an 8-inch sewer main in Gayley Avenue.
- **Bradley Site.** There is an existing 15-inch sewer line in Strathmore Drive.
- **Drake Stadium Site.** There is an existing 12-inch sewer line in Charles E. Young Drive West.

Solid Waste

As identified in the March 2009 LRDP Amendment Final EIR, UCLA contracts with a private solid waste disposal company (Athens Services) to collect, recycle, and dispose of campus-generated solid waste. Under this contract, the private solid waste hauler is responsible for all on-campus facilities and residence halls; the medical center; the Student Union buildings; and the Associated Student food service areas. The hauler transports and deposits waste at the American Waste Transfer Station in Gardena. Following waste separation and sorting and recycling activities, the recovery facility then ships remaining waste to the Sunshine Canyon Landfill (which is partially located in both the County and City of Los Angeles) and/or the Chiquita Canyon Landfill (which is located in unincorporated County of Los Angeles near the Community of Castaic).

Table 4.11-1, Existing Waste Disposal for Landfills Serving the UCLA Campus, summarizes the operations of the Sunshine Canyon and Chiquita Canyon Landfills; the total daily and remaining capacity at the landfills; and information regarding the waste-to-energy facility utilized by UCLA. As shown, the total maximum daily capacity of the landfills is 18,100 tons, and average daily disposal is 11,147 tons; therefore, there is an estimated remaining daily capacity of 6,953 tons.

TABLE 4.14-1
EXISTING WASTE DISPOSAL FOR LANDFILLS SERVING THE UCLA CAMPUS

Site	Estimated Remaining Life (years)	LUP/CUP Maximum Daily Capacity (tons)	2015 Average Daily Disposal (tons/day)	2015 Annual Disposal (million tons)	Total Remaining Permitted Capacity as of 12/31/2015 (million tons)
Chiquita Canyon Landfill*	1	6,000	3,446	1.08	0.76
Sunshine Canyon City/County Landfill	22	12,100	7,701	2.40	72.61
	Totals	**18,100**	**11,147**	**3.48**	**73.37**
Commerce Refuse-to-Energy Facility	–	1,000	360	0.11	–

LUP/CUP: Land Use Permit/Conditional Use Permit

* The current CUP expires November 24, 2019, or when the maximum capacity is reached, whichever is sooner. An expansion is pending for additional 48.4 million tons of permitted capacity.

Source: LADPW 2016.

The UCLA campus currently achieves a solid waste diversion of between 80–90 percent. This is accomplished through various recycling and waste management programs, including but not limited to programs for food and beverage containers, plastics, paper, metals, green waste, food waste, construction waste, and electronics. UCLA also operates a SAFE Collection Center at the Environmental Health and Safety (EH&S) facility that accepts off-campus residential hazardous and electronic waste for recycling at no charge. Based on the current diversion rate, the actual solid waste generation in the future would likely be less than projected based on the 2007 solid waste stream from the campus, at which time the campus was experiencing a 42 percent diversion rate.

Energy (Electricity and Natural Gas)

As identified in Section 4.14.4 of the March 2009 LRDP Amendment Final EIR, campus energy supply sources include electricity generated by the on-campus Cogeneration Plant (ESF),

electricity purchased from the LADWP, natural gas purchased from The Southern California Gas Company (SoCalGas), and landfill gas purchased from SCS Renewable Energy-Mountaingate, LLC.

All of the landfill gas and the majority of the natural gas are used to power the campus Cogeneration Plant which, in turn, provides electricity and steam to the majority of the campus and chilled water to many buildings on the main campus. The Cogeneration Plant currently provides 85 percent of the campus' demand for electricity (UCLA 2017a). Remaining electrical needs are supplied by the LADWP, and complete campus utility connections with the LADWP have been maintained for emergencies and peak energy demands. The LADWP connections serve the majority of the campus through an electricity substation located immediately north of the ESF. Monthly electricity usage on campus is relatively constant during the course of a year; the annual electricity consumption for the campus in 2016 was 109 million kWh. The 2016 annual baseline natural gas consumption for the campus was approximately 4.3 million British thermal units (MMBTU) of gaseous fuel used directly in buildings other than the ESF.

As discussed in Section 3.5.5, Utility Infrastructure, and shown on the site surveys provided on Figures 3-3 through 3-7, of this Draft SEIR, there is existing electricity and natural gas within and/or adjacent to the proposed housing sites. Also, there is an existing transformer located at the Science and Technology Research Building and a 12.4-kilovolt-amperes (kVA) loop that currently serves Warren Hall, the Weyburn Terrace Phase 1 housing, and the existing UNEX building.

4.14.2 REGULATORY FRAMEWORK

Section 4.14 of the March 2009 LRDP Amendment Final EIR provides a complete discussion of the regulatory framework for utilities and service systems relevant to development on campus. The following discussion focuses on the regulatory information that was presented in the LRDP Final EIR, which is updated or particularly relevant to the proposed Project.

University of California Sustainable Practices Policy

As with all University of California (UC) campuses, UCLA is required to implement the UC Sustainable Practices Policy (refer to Campus Program, Practice, and Procedure [PP] 4.15-1 provided in Section 4.6, Greenhouse Gas Emissions, of this Draft SEIR). The Sustainable Practices Policy establishes goals in nine areas of sustainable practices and includes various campus-wide policies and accompanying procedures to address energy, recycling and waste management, and sustainable water systems (UCOP 2017). A complete listing of policies is provided in Section 4.6 of this Draft SEIR.

The policies most relevant to **energy use** applicable to the proposed Project include the following:

Section III.A – Green Building Design

1. All new building projects, other than acute care facilities, shall be designed, constructed, and commissioned to outperform the CBC energy-efficiency standards by at least 20% or meet the whole-building energy performance targets listed in Table 1 of Section V.A.3. The University will strive to design, construct, and commission buildings that outperform CBC energy efficiency standards by 30% or more, or meet the stretch whole-building energy performance targets listed in Table 1 of Section V.A.3, whenever possible within the constraints of program needs and standard budget parameters.

3. All new buildings will achieve a USGBC LEED "Silver" certification at a minimum. All new buildings will strive to achieve certification at a USGBC LEED "Gold" rating or higher, whenever possible within the constraints of program needs and standard budget parameters.

The policies most relevant to **solid waste** applicable to the proposed Project include the following:

Section III.F – Recycling and Waste Management

1. The University prioritizes waste reduction in the following order: reduce, reuse, and then recycle.
2. The University's goal for diverting municipal solid waste from landfills is as follows:
    - 50% as of June 30, 2008
    - 75% as of June 30, 2012
    - Ultimate goal of zero waste by 2020

In compliance with these policies, the campus is currently achieving an 80 to 90 percent solid waste diversion and has experienced a continuing increase in waste diversion.

The policies most relevant to **water conservation** applicable to the proposed Project include the following:

Section III.I – Sustainable Water Systems

With the overall intent of achieving sustainable water systems and demonstrating leadership in the area of sustainable water systems, the University has set the following goals applicable to all locations:

1. In line with the Federal Government's Executive Order (dated March 2015)[1], locations will reduce growth-adjusted potable water consumption 20% by 2020 and 36% by 2025, when compared to a three-year average baseline of FY2005/06, FY2006/07, and FY2007/08. Locations that achieve this target early are encouraged to set more stringent goals to further reduce potable water consumption. Medical Centers shall also strive to reduce potable water use and will identify a separate reduction target by June 2016. Each Campus shall strive to reduce potable water used for irrigation by converting to recycled water, implementing efficient irrigation systems, drought tolerant planting selections, and/or by removing turf.

2. Each location will develop and maintain a Water Action Plan that identifies long term strategies for achieving sustainable water systems. The next update of the plan shall be completed in December 2016.

    A. Campuses will include in this update quantification of total square feet of used turf and under-used turf areas on campus as well as a plan for phasing out un-used turf irrigated with potable water.

[1] For more information on this goal, see Executive Order - Planning for Federal Sustainability in the Next Decade.

Section III.A – Green Building Design

5. All new building projects will achieve at least two points within the available credits in LEED-BD+C's Water Efficiency category.

As previously discussed, the campus developed a Water Action Plan in 2013 and is in the process of updating the plan with updated initiatives, strategies, and progress to meet the established goals. The campus continues to study and evaluate the projects proposed under the WAP, and an array of other potential projects that would enable the campus to meet the goals of the Sustainable Practices Policy.

The following policy related to **environmentally preferable purchasing** is also applicable to the proposed Project:

Section V.G – Procedures/Environmental Preferable Purchase (Energy and Water)

15. For product categories where ENERGY STAR®-rated or WaterSense®-certified products are available, the University will focus its procurement efforts only on products with an ENERGY STAR® rating or WaterSense® certification, consistent with the needs of University researchers, faculty, and staff.

State

Senate Bill 610

Senate Bill (SB) 610 amended Part 2.10 of the *California Water Code* regarding water supply availability. SB 610, also known as Water Supply Assessment, requires Cities and Counties to request specific information on water supplies from public water systems that would serve (1) a project that is subject to the California Environmental Quality Act (CEQA) and is defined as a "project" in Section 10912 of the *California Water Code*; this information must be included in environmental review documents prepared pursuant to CEQA.

However, SB 610 applies only to Cities and Counties, and not to the University of California, a constitutionally established public entity. For the currently proposed housing projects, a Water Supply Assessment has been prepared in compliance with the intent of SB 610 and is located in Appendix I of this Draft SEIR (Psomas 2017). The Water Supply Analysis uses data from the LADWP's 2015 UWMP.

SB 1262 – Sustainable Groundwater Management Act

State Senate Bill 1262 adopted in September 2016 amends Section 66473.7 of the Government Code to require WSAs to address certain elements regarding groundwater sustainability if the project relies in whole or in part on groundwater as a source of supply.

For the WSA prepared for the proposed Project, the portions of SB 1262 that are applicable are as follows:

> For a basin that has not been adjudicated that is a basin designated as high- or medium-priority pursuant to Section 10722.4, information regarding the following should be provided:
>
> - Whether the department (DWR) has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924.

- If a groundwater sustainability agency has adopted a groundwater sustainability plan, or has an approved alternative; a copy of that alternative or plan.

Waste Discharge Requirements

The quality of effluent that the HWRP can discharge is established by the Los Angeles Regional Water Quality Control Board (RWQCB) through a National Pollutant Discharge Elimination System (NPDES) permit that specifies Waste Discharge Requirements (WDRs). Operation of the HWRP is subject to regulations set forth by the California Department of Health Services (DHS) and the State Water Resources Control Board (SWRCB).

Assembly Bill 939 – California Integrated Waste Management Act

At the State level, the management of solid waste is governed by regulations established by the California Department of Resources Recycling and Recovery (CalRecycle) (formerly the California Integrated Waste Management Board), which delegates local permitting, enforcement, and inspection responsibilities to Local Enforcement Agencies. In 1997, some of the regulations adopted by the SWRCB pertaining to landfills (Title 23, Chapter 15) were incorporated with CIWMB regulations (Title 14) to form Title 27 of the *California Code of Regulations.*

In 1989, the Legislature adopted the California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939), which requires jurisdictions to reduce the amount of solid waste disposed of in landfills by 50 percent by the year 2000 and thereafter. The Act further required that each County prepare a new Integrated Waste Management Plan. Subsequent to AB 939, additional legislation was passed to assist local jurisdictions in accomplishing the required waste reduction goals.

Assembly Bill 241

On October 6, 2011, Governor Brown signed AB 341 establishing a State policy goal that no less than 75 percent of solid waste generated be source reduced, recycled, or composted by 2020, and requiring CalRecycle to provide a report to the Legislature that recommends strategies to achieve the policy goal by January 1, 2014. The bill also mandates that local jurisdictions implement commercial recycling by July 1, 2012. CalRecycle will review each jurisdiction's commercial recycling program every two to four years for compliance with AB 341. Businesses and public entities generating four cubic yards of trash or more and multi-family residential dwellings with five or more units are required to establish and maintain recycling service under AB 341.

Title 24 Energy Efficiency Standards

New buildings in California are required to conform to energy conservation standards specified in Title 24 of the *California Code of Regulations* (CCR). The Energy Efficiency Standards for Residential and Nonresidential Buildings (24 CCR 6) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24, Part 6 of the 2016 California Building Standards Code (known as the 2016 California Energy Code) went into effect on January 1, 2017 (CBSC 2017). The requirements of the energy efficiency standards result in the reduction of natural gas and electricity consumption. As previously discussed, the UC Sustainable Practices Policy directs that campuses exceed Title 24 by 20 percent for all new buildings (UCOP 2017).

Title 24 Green Building Standards

The 2016 California Green Building Standards Code (24 CCR 11) is a code with mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools, and hospitals) throughout California and became effective on January 1, 2017. The code is Part 11 of the California Building Standards Code in Title 24 of the *California Code of Regulations* and is also known as the CALGreen Code (CBSC 2017).

Relevant to the analysis presented in this section of the Draft SEIR, the development of the CALGreen Code is intended to (1) reduce energy and water consumption and (2) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impacts during and after construction.

The CALGreen Code contains requirements for construction waste reduction, indoor water use reduction, site irrigation conservation, and more. The code provides for design options, allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency. The requirements of the energy efficiency standards result in the reduction of natural gas and electricity consumption.

4.14.3 PROJECT IMPACTS AND MITIGATION

Methods

The WSA prepared for the proposed Project includes a calculation of water demand for each site based on a rate of 50 gallons per day per bed (gpd/bed) plus an additional volume to account for the UCLA cooling tower load[2] (Psomas 2017); water infrastructure sizing was based on water demand and fire flow requirements (e.g., pressure). Consistent with Sanitary Sewer Study prepared to support the March 2009 LRDP Amendment Final EIR (RBF Consulting 2008), wastewater generation was calculated based on the estimated water demand (based on an assumption that water consumption would be 15 percent higher than wastewater generation [to account for use of landscape irrigation water]), and the sewer infrastructure sizing was based on the number and type of connected plumbing fixtures for the proposed uses.

Solid waste generation was estimated based on project-specific demolition volumes, construction waste generation factors established by the U.S. Environmental Protection Agency (USEPA), and the campus solid waste generation factor for operations. The total amount of solid waste to be diverted to landfills was based on UC requirements for solid waste reduction. Energy use (electricity and natural gas) was estimated from the California Emissions Estimator Model (CalEEMod) air quality model, and the infrastructure need was based on peak demands for the proposed uses. Long-term solid waste is calculated for the net increase in gross square feet (gsf), rather than the proposed Project total.

To determine impacts related to these utilities and services, the net projected demand/generation of the proposed housing projects was compared to the current availability or supply/capacity of the affected utility as well as the available infrastructure capacity.

[2] Based on 1 ton air condition unit per 400 sf and 4 gallons per minute (gpm) of water use per 100 tons then adjusted (divided) by a peak factor of 3.5 to obtain average annual demand.

Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, a project will normally have a significant adverse environmental impact related to utilities and service systems if it will:

- Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Have insufficient water supplies available to serve the project from existing entitlements and resources, and new or expanded entitlements are needed.
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Not be in compliance with applicable federal, State, and local statutes and regulations related to solid waste.
- Create other utility and service system impacts.[3]

It should be noted that the capacity of storm drain facilities is addressed in Section 4.8, Hydrology and Water Quality, of this Draft SEIR.

Campus Programs, Practices, and Procedures and Mitigation Measures Carried Forward from the March 2009 Long Range Development Plan Amendment Final Environmental Impact Report

The following Programs, Practices, and Procedures (PPs) were adopted as part of the March 2009 LRDP Amendment Final EIR, and are incorporated as part of the proposed Project and assumed in the analysis presented in this section.

PP 4.14-2(a) *New facilities and renovations (except for patient care facilities in the Medical Center) shall be equipped with low-flow showers, toilets, and urinals.*

PP 4.14-2(b) *Measures to reduce landscaping irrigation needs shall be used, such as automatic timing systems to apply irrigation water during times of the day when evaporation rates are low, installing drip irrigation systems, using mulch for landscaping, subscribing to the California Irrigation Management Information System Network for current information on weather and evaporation rates, and incorporating drought-resistant plants as appropriate.*

PP 4.14-2(c) *The campus shall promptly detect and repair leaks in water and irrigation pipes.*

[3] The analysis of this threshold addresses energy (electricity and natural gas) production.

PP 4.14-2(d) *The campus shall minimize the use of water to clean sidewalks, walkways, driveways and parking areas.*

PP 4.14-2(e) *The campus shall avoid serving water at UCLA food service facilities except upon request.*

PP 4.14-2(g) *The campus shall educate the campus community on the importance of water conservation measures.*

PP 4.14-3 *The campus shall continue to implement a solid waste reduction and recycling program designed to limit the total quantity of campus solid waste that is disposed of in landfills during the LRDP plan horizon.*

PP 4.14-5 *As part of the design process for proposed projects, an evaluation of the on-campus sewer conveyance capacity shall be undertaken, and improvements provided if necessary in order to ensure that connections are adequate and capacity is available to accommodate estimated flows.*

PP 4.14-9 *The campus shall continue to implement energy conservation measures (such as energy-efficient lighting and microprocessor-controlled HVAC equipment) to reduce the demand for electricity and natural gas. The energy conservation measures may be subject to modification as new technologies are developed or if current technologies become obsolete through replacement.*

In addition, PP 4.15-1, discussed under the greenhouse gas (GHG) emissions analysis (Section 4.6 of this Draft SEIR), which requires implementation of the provisions of the UC Sustainable Practices Policy, is also incorporated in the proposed Project:

PP 4.15-1 *The campus shall continue to implement provisions of the UC Policy on Sustainability Practices including, but not limited to: Green Building Design; Clean Energy Standards; Climate Protection Practices; Sustainable Transportation Practices; Sustainable Operations; Recycling and Waste Management; Environmentally Preferable Purchasing Practices; and provisions of the applicable UCLA Climate Action Plan.*

Impact Analysis

Threshold 14.1	Would the project require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Water Infrastructure

The analysis of Impact 4.14-1 in Section 4.14, Utilities and Service Systems, of the March 2009 LRDP Amendment Final EIR states that new water infrastructure (lines) may be necessary with implementation of the remaining development allocation on campus; it also states that each future on-campus development would be subject to project-specific CEQA and site-specific analyses of potential impacts for construction and operation of individual projects, including infrastructure. Potential impacts from construction of this infrastructure were comprehensively analyzed at a program level in Sections 4.2 (Air Quality), 4.9 (Noise and Vibration), and 4.13 (Transportation/Traffic) of the March 2009 LRDP Amendment Final EIR.

As further described under Threshold 14.4 below, the proposed housing projects would generate a total peak demand for approximately 415,560 gpd of potable water. The existing water demand at the Warren Hall and UNEX project sites is currently 7,000 gpd; the water demand at the remaining sites is minimal and to be conservative is not included in the calculation of the net water demand for the project. Therefore, the estimated net increase in water demand with implementation of the proposed housing projects is approximately 408,560 gpd (0.41 mgd). The proposed housing projects would implement the water conservation measures described in PPs 4.14-2(a) though 4.14-2(e), and 4.14-2(g). The existing and proposed domestic water (i.e., domestic, fire, and irrigation water) facilities that would serve the proposed housing projects are described in Section 3.5.5, Utility Infrastructure, of this Draft SEIR. The water infrastructure that would serve each proposed housing project is summarized below.

- **Lot 15 Site.** Water needs at this site would be served by new 8-inch connections to the 8-inch main in De Neve Drive. Backflow prevention devices would also need to be installed. No new or expanded water lines, beyond the installation of on-site facilities that would connect to existing water lines would be required.
- **Warren Hall Site.** Water needs at this site would be served with a new 8-inch connection to the 12-inch main in the private drive lane north of the site. Proposed domestic water building connections would be served with a new 6-inch connection to the 12-inch main in the private drive lane north of the site. Backflow prevention devices would also need to be installed. No new or expanded water lines beyond the installation of on-site facilities that would connect to existing water lines would be required.
- **UNEX Site.** Water needs at this site would be served by the existing 8-inch water main in Gayley Avenue. If necessary, the existing 6-inch water main in Levering Avenue could also be used. A backflow prevention device would need to be installed. No new or expanded water lines, beyond the installation of on-site facilities that would connect to existing water lines would be required.
- **Bradley Site.** There is an existing 8-inch water main in Gayley Avenue and 12-inch water line in Charles E. Young Drive West adjacent to this site that could serve the proposed uses. The existing service line that passes through the northwest portion of the site to Bradley Hall would either be protected in place or relocated to ensure continued service to Bradley Hall. No new or expanded water lines, beyond the installation of on-site facilities that would connect to existing water lines would be required.
- **Drake Stadium Site.** Water needs at this site would be served by the existing 8-inch water main in Gayley Avenue. No new or expanded water lines, beyond the installation of on-site facilities that would connect to existing water lines would be required.

As identified, there is existing capacity in the existing water infrastructure and no new or expanded water infrastructure, apart from water line connections, would be required to serve the proposed housing projects. The utility connections at each proposed housing site primarily require removal of existing asphalt surfaces and/or shallow excavation and would occur within the identified impact area evaluated throughout this Draft SEIR (refer to Figures 3-18 through 3-21 in Section 3.0, Project Description). Substantial demolition or significant excavation would not be required as these utilities are located near the surface. Construction impacts anticipated to result from implementation of the proposed housing projects are comprehensively analyzed throughout this Draft SEIR; of particular relevance are Sections 4.2 (Air Quality), 4.10 (Noise and Vibration), and 4.13 (Transportation/Traffic). Therefore, consistent with the conclusion presented in the March 2009 LRDP Amendment Final EIR, there would be a less than significant impact related to the need to construct new or expanded water facilities and no additional mitigation would be required.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The proposed housing projects would not require construction of new water facilities beyond the installation of new lines to connect the proposed buildings to existing infrastructure; the physical limits of utility construction are within the impact area addressed throughout this Draft SEIR.

Threshold 14.2	Would the project require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
Threshold 14.3	Would the project exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board?
Threshold 14.4	Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The Initial Study for the March 2009 Amendment to the 2002 LRDP determined there would be no significant impact related to wastewater treatment requirements of the Los Angeles RWQCB and was not carried forward for further discussion in the Draft EIR. The analysis of Impacts 4.14-5 and 4.14-6 in Section 4.14, Utilities and Service Systems, of the March 2009 LRDP Amendment Final EIR concluded that there would be a less than significant impact related to the need to construct new or expanded wastewater conveyance or treatment facilities with implementation of PPs 4.14-2(a) through 4.14-2(e), PP 4.14-2(g), and PP 4.14-5. The LRDP Final EIR also determined that implementation of the remaining development allocation on campus contemplated by the March 2009 Amendment to the 2002 LRDP would not generate a volume of wastewater that would exceed the capacity of the HWRP wastewater treatment system in combination with the provider's existing service commitments.

Wastewater Infrastructure

In accordance with PP 4.14-5, UCLA has evaluated the proposed Project to determine if the wastewater generated by the proposed housing projects would exceed the capacity of existing sewer lines. As further described below, the proposed housing projects would result in a net increased wastewater generation of approximately 0.36 mgd. The proposed housing projects would implement the water conservation measures described in PPs 4.14-2(a) though 4.14-2(e) and 4.14-2(g), which also reduced the wastewater stream. The existing and proposed wastewater facilities that would serve the proposed housing projects are described Section 3.5.5, Utility Infrastructure, of this Draft SEIR. The infrastructure that would be needed to serve each proposed housing project is summarized below.

- **Lot 15 Site.** The proposed buildings would connect to the existing 8-inch sewer line serving the Hitch Suites. Based on sewer line monitoring conducted in 2017 (ADS 2017), this line has adequate capacity, at this point of connection, to serve the proposed development at this site. The portion of the existing 8-inch sewer line under the proposed building would be relocated north of the building limits (approximately 200 linear feet). A potential option for providing service to this site would be to install a 4- to 6-inch sewer

line between the existing Southern Regional Library and the Saxon Suites. This line would connect the proposed buildings to an existing manhole on Gayley Avenue and the existing 8-inch sewer line. Monitoring studies show this sewer line also has capacity, at this point of connection, for the proposed development at this site. However, under both options, downstream portions of both the Veteran Avenue and Gayley Avenue sewer mains are currently at capacity. Connecting proposed development at the Lot 15 site to the 10-inch main in Veteran Avenue, would require the upgrade of the downstream 12-inch sewer main to an 18-inch line. Connecting the project to the Gayley Avenue line would require an upgrade of the downstream 18-inch Gayley main to a 24-inch line. The construction impact maps for the Lot 15 site sewer line connection options and sewer line upgrades along Veteran Avenue and Gayley Avenue are shown in Figures 3-18 and 3-19 in Section 3.0, Project Description, of this Draft SEIR).

- **Warren Hall Site.** The proposed buildings at the Warren Hall site would connect to the existing 8-inch sewer line in Weyburn Terrace. Because of the limited capacity in the 12-inch City sewer line in Veteran Avenue, options for providing upgrades to the existing sewer infrastructure to serve the proposed development at this site are being considered. As one option, the 12-inch main in Veteran Avenue would be upgraded to an 18-inch main, and the existing 8-inch lines from the existing Weyburn Terrace development that connect to the 12-inch main would be reconnected to the upgraded sewer line (refer to Figure 3-19 in Section 3.0, Project Description). The second option involves the installation of an eastern extension of the existing 8-inch Weyburn Avenue sewer line from its current terminus to a connection at Gayley Avenue, and an upgrade of the existing 18-inch main in Gayley Avenue to a 24-inch main (generally from Charles E. Young Drive to just south of Kinross Avenue).
- **UNEX Site.** The proposed buildings would be served by an existing 8-inch sewer main in Le Conte Avenue, which is located along the southern site boundary and runs east to connect to an 8-inch sewer main in Gayley Avenue. Based on sewer line monitoring conducted in 2017 by the City of Los Angeles, there is currently capacity in the Gayley Avenue 8-inch sewer main to accommodate the proposed housing project (City of Los Angeles Bureau of Engineering 2017). Due to plumbing code requirements, a second 8-inch lateral connection to the Gayley 8-inch sewer main would also be required. No new or expanded sewer lines, beyond the installation of on-site facilities to connect to existing facilities, would be required.
- **Bradley Site.** The proposed buildings would connect to an existing 15-inch sewer line in Strathmore Drive, which is located on the south side of the site. Based on sewer line monitoring conducted in 2016 (ADS 2016), there is capacity in the 15-inch sewer line to accommodate the proposed development at this connection point. The 15-inch Strathmore line connects to a 12-inch line in Gayley Avenue that transitions to an 18-inch main near the intersection of Gayley and Landfair Avenues; transitioning again at Gayley and Kinross Avenues, to a 24-inch main. Because the downstream 18-inch portion of the Gayley Avenue sewer main is currently at or over capacity, development of the Bradley site would require an upgrade of the18-inch Gayley main to a 24-inch line.
- **Drake Stadium Site.** The proposed building would connect to an existing 12-inch sewer line in Charles E. Young Drive West, which is located on the west side of the site. Based on sewer line monitoring conducted in 2016 (ADS 2016), there is capacity in the 12-inch sewer line to accommodate the proposed development at this connection point. The 12-inch sewer line in Charles E. Young Drive West connects to a 15-inch line in Strathmore Drive, which then connects to a 12-inch line in Gayley Avenue that transitions to an 18-inch main near the intersection of Gayley and Landfair Avenues; transitioning again at Gayley and Kinross Avenues, to a 24-inch main. Because the downstream 18-inch portion of the

Gayley Avenue sewer main is currently at or over capacity, development of the Drake site would require an upgrade of the 18-inch Gayley main to a 24-inch line.

As indicated above, the proposed housing projects at the Warren Hall, Lot 15, Bradley, and Drake sites would require off-site utility line installations or upgrades along Veteran Avenue or Weyburn Drive and Gayley Avenue (refer to Figure 3-19). No sewer line upgrades would be required for the UNEX site.

The sewer line connections and off-site upgrades would primarily require removal of existing asphalt surfaces and/or shallow excavation. Substantial demolition or significant excavation would not be required as these utilities are located near the surface. Construction impacts anticipated to result from installation of the sewer infrastructure are comprehensively analyzed throughout this Draft SEIR; of particular relevance are Sections 4.2 (Air Quality), 4.10 (Noise and Vibration), and 4.13 (Transportation/Traffic). Therefore, consistent with the conclusion presented in the March 2009 LRDP Amendment Final EIR, there would be a less than significant impact related to the need to construct new or expanded wastewater facilities and no additional mitigation would be required.

Wastewater Treatment and Quality

Table 4.14-2, Estimated Wastewater Generation, summarizes the daily wastewater generation for each proposed housing project and in total for the proposed Project.

TABLE 4.14-2
ESTIMATED WASTEWATER GENERATION

Proposed Housing Project	Estimated Wastewater Generation (gpd)
Lot 15	90,890
Warren Hall	125,430
UNEX	71,220
Bradley	30,450
Drake Stadium	43,370
Total	**361,360**
gpd – gallons per day	

As shown in Table 4.14-2, the proposed housing projects would generate approximately 361,360 gpd of wastewater. When taking into consideration the demolition of existing buildings at the Warren Hall and UNEX sites, which generate approximately 6,087 gpd of wastewater, the proposed Project would have a net increase in wastewater generation of approximately 355,273 gpd (or approximately 0.36 mgd). It should be noted that this net increase is a conservative estimate as it does not take into consideration any water consumption, although limited, that occurs at the Lot 15 site, and the Bradley site (for irrigation), and the Drake Stadium site that that may be eliminated with implementation of the proposed Project. The addition of 0.36 mgd of wastewater would represent a negligible amount (approximately 0.19 percent) of the HWRP's current remaining capacity of approximately 192 mgd for average dry weather flow (Kim 2017) and could be adequately treated at this facility. Therefore, the HWRP continues to have adequate capacity to service the proposed housing projects in addition to other existing commitments, consistent with the findings of the March 2009 LRDP Amendment Final EIR.

Regarding wastewater quality, the quality of effluent that the HWRP can discharge is established by the RWQCB through an NPDES permit that specifies WDRs. Operation of the HWRP is subject to regulations set forth by the California Department of Health Services (DHS) and the SWRCB. In 2006, the SWRCB adopted the Statewide General WDRs for publicly owned sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in California, which includes the City of Los Angeles' sanitary sewer system and the HWRP (SWRCB 2006). The WDRs were developed to ensure that adequate levels of treatment would be provided for the wastewater flows emanating from all land uses within its service area, including the project site. In addition, the City of Los Angeles has completed a Sewer System Management Plan (SSMP) for the HWRP sewer system (February 2017), which demonstrates compliance with the State's WDRs (LA Sanitation 2017a).

Residential land uses do not generate hazardous or otherwise regulated discharges, such as certain commercial and industrial uses. Therefore, as previously analyzed and concluded in the March 2009 LRDP Amendment Final EIR, there would be no significant impact from implementation of the proposed housing projects related to Los Angeles RWQCB wastewater treatment requirements. Construction and operation of the proposed housing projects would not result in a violation of the Statewide General Waste Discharge Requirements (WDRs).

In summary, the proposed Project would result in less than significant impacts related to wastewater infrastructure and treatment, consistent with the conclusion presented in the March 2009 LRDP Amendment Final EIR. No additional mitigation would be required.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have no significant impact related to exceeding wastewater treatment requirements of the applicable RWQCB, and a less than significant impact related to the capacity of existing wastewater treatment systems. The proposed Project would require the installation of new wastewater infrastructure; new sewer lines would be installed at each site to connect to existing sewer lines and sewer line upgrades are required. The physical limits of utility construction are within the impact area addressed throughout this Draft SEIR.

Threshold 14.5	Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The analysis of Impact 4.14-2 in Section 4.14, Utilities and Service Systems, of the March 2009 LRDP Amendment Final EIR concluded that implementation of the remaining development allocation on campus would not require water supplies in excess of existing entitlements and resources or result in the need for new or expanded entitlements with implementation of PPs 4.14-2(a) through 4.14-2(e) and PP 4.14-2(g), and there would be a less than significant impact.

Water Demand

Water demands were estimated for the proposed Project as shown in Table 3.2 based on respective bed counts and estimated cooling water usage. Table 4.14-3, Estimated Water Demand, summarizes the estimated daily water demand for each proposed housing project,

existing water demand at the UNEX and Warren Hall site, and net new water demand for the proposed Project.

TABLE 4.14-3
ESTIMATED WATER DEMAND

Proposed Housing Sites	Project Statistics		Project Water Demand (gpd)			Existing Water Demand[c] (gpd)	Net New Water Demand (gpd)
	Building sf	Dorm Beds	Inside[a]	Cooling[b]	Total		
Lot 15	353,000	1,800	90,000	14,523	104,523	0	104,523
Warren Hall	650,000	2,350	117,500	26,743	144,243	963	143,280
UNEX	350,000	1,350	67,500	14,400	81,900	6,037	75,863
Bradley	122,000	600	30,000	5,019	35,019	0	35,019
Drake	240,000	800	40,000	9,874	49,874	0	49,874
Total	1,715,000	6,900	345,000	70,560	415,560	7,000	408,560

sf: square feet; gpd: gallons per day

[a] Inside water demand at 50 gallons per day (gpd) per bed based sewer flow monitoring for Northwest Campus Area (Sanitary Sewer Study, RBF Consulting, June 2008)

[b] Cooling water demand estimated based on 1 ton AC unit per 400 sf and 4 gallons per minute (gpm) of water use per 100 tons then adjusted (divided) by a peak factor of 3.5 to obtain average annual demand based on information provided by Glumac, the MEP engineer for the proposed housing projects.

[c] Based on 2016 meter data (Middleton 2017).

Source: Psomas 2017

As shown in Table 4.14-3, the proposed housing project would result in the demand for approximately 415,560 gpd of potable water (or 0.42 mgd). The current water demand for Warren Hall and UNEX is approximately 7,000 gpd (or 0.007 mgd); thus the net new water demand would be 408,560 gpd (or 0.41 mgd). Consistent with PP 4.14-2(a), the proposed housing projects would include low-flow fixtures, and consistent with PP 4.14-2(b) through 4.14-2(e), the landscaping on each site would reduce water use; water would not be served at the Bradley food service facilities except upon request, and water would not be used to clean hard surfaces around the building. Also, consistent with PP 4.14-2(g), the residents and employees of the proposed housing projects would be part of the campus community to be educated regarding water conservation.

Water Supply

As previously discussed, to determine the overall service area reliability, in the 2015 UWMP LADWP defined three hydrologic conditions: average year (50-year average hydrology from FY 1962 to 2011 [normal year]); single-dry year (such as a repeat of the FY 2015 drought); and multi-dry year (such as a repeat of FY 2013 to FY 2015). These defined conditions are used to determine the corresponding level of water supply. The corresponding demand under each hydrologic condition is also determined. Weather patterns and water demands were further studied to determine single-dry year demand and multi-dry year demands.

It is assumed that the proposed Project demands were not included in LADWP's 2015 UWMP as the demand projections in the UWMP were based on the 2012 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) estimates and projections. Projected water demands through the planning period, 2020 through 2040, under normal year hydrologic conditions, are shown in Table 4.14-4. All demands include an estimated 6 percent water loss consistent with the 2015 UWMP. The normal year, single-dry year, and multiple-dry year water supply reliability summaries are shown in

Table 4.14-4, Table 4.14-5, and Table 4.14-6, respectively.[4] The single-dry and multiple-dry year demands are estimated to be 5.0 percent higher than the forecasted normal year demand.

The projected supply portfolio under multiple-dry year conditions is almost identical to that under single-dry year conditions. The only difference being slight changes in the LAA water supply. In their 2015 UWMP, a major goal of LADWP is to reduce reliance on imported water, first from Metropolitan and then from the LAA system. In their normal year, single-dry year and multiple-dry year tables, they balanced demand with supply by adding up all other demands and showing Metropolitan as the last supply to balance demands. They then show Potential Supplies of 40,000 AFY in water transfers, which could potentially further reduce Metropolitan imports. For the WSA for the proposed Project, the additional demand of the proposed Project is assumed to come from corresponding additional supplies from Metropolitan. And since Metropolitan has demonstrated in its 2015 UWMP that they have a surplus in all scenarios, LADWP is projected to have sufficient water supply to meet all demands including the demands from the proposed Project for normal year, single-dry year, and multiple-dry year conditions through the planning period (2020 to 2040).

The information included in the WSA and shown on the tables below identify a sufficient and reliable water supply for LADWP, now and into the future, including a sufficient water supply for the proposed Project. These supplies are also sufficient to provide for overall City-wide growth at the rate projected in LADWP's 2015 UWMP.

[4] The water supply reliability tables also include the water demand from implementation of development anticipated by the remaining development allocation in the existing UCLA LRDP. However, it should be noted that this future development is not part of the proposed Project and is being included in the analysis to provide a comprehensive assessment of future campus water demands. The expected physical impacts associated with implementation of the remaining LRDP development allocation were evaluated in the March 2009 LRDP Amendment. Additionally, any future projects implementing the remaining LRDP development allocation would also be subject to project-specific evaluation pursuant to the California Environmental Quality Act (CEQA).

TABLE 4.14-4
NORMAL YEAR LADWP SUPPLY RELIABILITY

Demand/Supply Component	Projected Demand/Supply (AFY)				
	2020	**2025**	**2030**	**2035**	**2040**
Projected Demands[a]					
Remaining LRDP Allocation[a]	-	28	28	28	28
Proposed Project[a]	-	494	494	494	494
Remaining LADWP Water Service Area[a]	611,800	644,700	652,900	661,800	675,700
Total LADWP Water Service Area Demand[a]	**611,800**	**645,222**	**653,422**	**662,322**	**676,222**
pLAn Water Demand Target	485,600	533,431	540,531	551,534	566,037
Existing / Planned Supplies					
Conservation[b]	125,800	110,900	111,600	109,100	108,100
Los Angeles Aqueducts[c]	275,700	293,400	291,000	288,600	286,200
Net Groundwater[d]	112,670	110,670	106,670	114,670	114,070
Recycled Water					
Irrigation & Industrial Use	19,800	29,000	39,000	42,200	45,400
GW Replenishment	-	30,000	30,000	30,000	30,000
Stormwater Capture					
SW Reuse (Harvesting]	400	800	1,200	1,600	2,000
SW Recharge	2,000	4,000	8,000	15,000	15,000
Subtotal	***536,370***	***578,770***	***587,470***	***601,170***	***600,770***
Metropolitan Purchases w/ Existing/Planned Supplies	75,430	66,452	65,952	61,152	75,452
Total Supplies	**611,800**	**645,222**	**653,422**	**662,322**	**676,222**
Potential Supplies					
Water Transfers[e]	40,000	40,000	40,000	40,000	40,000

[a] With existing passive conservation.
[b] Additional active and passive conservation required to meet water use reduction goals in Sustainable City pLAn.
[c] Assumes 20,000 AFY for dust mitigation on Owens Lake after FY 2024. Supply estimated to decrease 0.165%/year due to climate change.
[d] Excludes stormwater recharge & groundwater replenishment that contribute to increased pumping.
[e] Potential water transfer occurs in dry years with stored water acquired in average and wet years.

Source: Psomas 2017

TABLE 4.14-5
SINGLE-DRY YEAR LADWP SUPPLY RELIABILITY

Demand/Supply Component	Projected Demand/Supply (AFY)				
	2020	**2025**	**2030**	**2035**	**2040**
Projected Demands[a]					
Remaining LRDP Allocation[a]	-	29	29	29	29
Proposed Project[a]	-	519	519	519	519
Remaining LADWP Water Service Area WSA[a]	642,400	676,900	685,500	694,900	709,500
Total LADWP Water Service Area Demand[a]	**642,400**	**677,448**	**686,048**	**695,448**	**710,048**
pLAn Water Demand Target	485,600	533,431	540,531	551,534	566,037
Existing / Planned Supplies					
Conservation[b]	156,700	143,700	145,100	143,500	143,500
Los Angeles Aqueducts[c]	32,200	51,900	51,400	51,000	50,600
Net Groundwater[d]	112,670	110,670	106,670	114,670	114,070
Recycled Water					
Irrigation & Industrial Use	19,800	29,000	39,000	42,200	45,400
GW Replenishment	-	30,000	30,000	30,000	30,000
Stormwater Capture					
SW Reuse (Harvesting]	100	200	300	300	400
SW Recharge	2,000	4,000	8,000	15,000	15,000
Subtotal	***323,470***	***369,470***	***380,470***	***396,670***	***398,970***
Metropolitan Purchases w/ Existing/Planned Supplies	318,930	307,978	305,578	298,778	311,078
Total Supplies	**642,400**	**677,448**	**686,048**	**695,448**	**710,048**
Potential Supplies					
Water Transfers[e]	40,000	40,000	40,000	40,000	40,000

[a] With existing passive conservation.
[b] Additional active and passive conservation required to meet water use reduction goals in Sustainable City pLAn.
[c] Assumes 20,000 AFY for dust mitigation on Owens Lake after FY 2024. Supply estimated to decrease. 0.165%/year due to climate change.
[d] Excludes stormwater recharge and groundwater replenishment supplies that contribute to increased pumping.
[e] Potential water transfer occurs in dry years with stored water acquired in average and wet years.

Source: Psomas 2017

TABLE 4.14-6
MULTIPLE-DRY YEAR LADWP SUPPLY RELIABILITY

Demand/Supply Component	Projected Demand/Supply (AFY)				
	2020	2025	2030	2035	2040
Projected Demands[a]					
Remaining LRDP Allocation[a]	-	29	29	29	29
Proposed Project[a]	-	519	519	519	519
Remaining LADWP Water Service Area[a]	642,400	676,900	685,500	694,900	709,500
Total LADWP Water Service Area Demand[a]	**642,400**	**677,448**	**686,048**	**695,448**	**710,048**
pLAn Water Demand Target	485,600	533,431	540,531	551,534	566,037
Existing / Planned Supplies					
Conservation[b]	156,700	143,700	145,100	143,500	143,500
Los Angeles Aqueducts[c]	33,500	53,200	52,800	52,400	51,900
Net Groundwater*[d]	112,670	110,670	106,670	114,670	114,070
Recycled Water					
Irrigation & Industrial Use	19,800	29,000	39,000	42,200	45,400
GW Replenishment	-	30,000	30,000	30,000	30,000
Stormwater Capture					
SW Reuse (Harvesting]	100	200	300	300	400
SW Recharge	2,000	4,000	8,000	15,000	15,000
Subtotal	***324,770***	***370,770***	***381,870***	***398,070***	***400,270***
Metropolitan Purchases w/ Existing/Planned Supplies	317,630	306,649	304,149	297,349	309,749
Total Supplies	**642,400**	**677,448**	**686,048**	**695,448**	**710,048**
Potential Supplies					
Water Transfers[e]	40,000	40,000	40,000	40,000	40,000

[a] With existing passive conservation.
[b] Additional active and passive conservation required to meet water use reduction goals in Sustainable City pLAn.
[c] Assumes 20,000 AFY for dust mitigation on Owens Lake after FY 2024. Supply estimated to decrease 0.165%/year due to climate change.
[d] Excludes stormwater recharge and groundwater replenishment supplies that contribute to increased pumping.
[e] Potential water transfer occurs in dry years with stored water acquired in average and wet years.

Source: Psomas 2017

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

Less than significant impact related to water supplies.

Threshold 14.6	Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
Threshold 14.7	Would the project comply with applicable federal, State, and local statutes and regulations related to solid waste?

The analysis of Impacts 4.14-3 and 4.14-4 in Section 4.14, Utilities and Service Systems, of the March 2009 LRDP Amendment Final EIR concluded that, with implementation of PPs 4.14-3 and

4.15-1, there would be a less than significant impact related to increased solid waste generated (there is adequate space in landfills serving the campus) and compliance with all applicable federal, State, and local statutes and regulations related to solid waste, respectively.

Construction

Construction activities associated with the proposed housing projects would involve the generation of solid waste that would require disposal. Table 4.14-7, Estimated Construction Waste Generation, summarizes the demolition debris anticipated for each proposed housing project and in total for the proposed Project.

TABLE 4.14-7
ESTIMATED CONSTRUCTION WASTE GENERATION

Proposed Housing Project	Estimated Demolition Debris (tons)	Estimated Construction Waste Generation (tons)
Lot 15	2,660	775
Warren Hall	13,201	1,427
UNEX	8,851	768
Bradley	0	268
Drake Stadium	153	527
Totals	**24,865**	**3,765**

As shown in Table 4.14-4, it is estimated that demolition of the existing buildings and hardscape would generate a total of approximately 24,865 tons of solid waste. Additionally, based on the USEPA's residential construction waste generation rate of 4.39 pounds per square foot (lbs/sf) (USEPA 2009), the proposed 1,715,000 gsf of new construction would generate approximately 3,765 tons of solid waste. Therefore, it is estimated that the proposed construction activities would generate approximately 28,629 tons of debris. As shown, the amount of debris that would be generated by the demolition of the Lot 15 and Warren Hall buildings, which would occur at the same time, would represent the peak day for generation of construction waste. UCLA would achieve a minimum LEED® Silver rating for the proposed Project. As part of this effort and consistent with the UC Sustainable Practices Policy, the UCLA campus is currently committed to achieving at least 75 percent waste diversion, which includes demolition and other construction waste. The campus' current total waste diversion (i.e., construction and operation) is 77 percent (Dudman 2017). Further, UCLA anticipates achievement of a 90 percent total waste diversion by 2020 and a 100 percent waste diversion for construction and operation of projects in 2025 and after (Dudman 2017). However, because construction activities would be occurring prior to meeting the 90 and 100 percent diversion requirements, to be conservative, this analysis assumes a 75 percent construction waste diversion for each of five sites. It should be noted that UCLA is able to monitor and enforce compliance with established diversion requirements through review of waste hauler receipts.

The construction periods for the five housing projects span intermittently from summer 2018 through summer 2025 (refer to Table 3-7, Construction Assumptions, in Section 3.0, Project Description). As shown in Table 4.14-8, the largest amount of debris is generated during the demolition period. Table 4.14-5, Estimated Daily Demolition Debris, summarizes the daily average debris in tons per day requiring disposal after diversion for the Lot 15, Warren Hall, UNEX and Drake Stadium sites (the Bradley site is undeveloped), and taking into consideration overlapping demolition activities for Lot 15 and Warren Hall.

TABLE 4.14-8
ESTIMATED DAILY DEMOLITION DEBRIS

Proposed Housing Project	Construction Start Date	Demolition (months/ working days)	Estimated Total Demolition Debris After 75 Percent Diversion (tons)	Estimated Daily Debris After 75 Percent Diversion (tons)
Lot 15	Fall 2018	2 (40)	3,965	99
Warren Hall				
UNEX*	Summer 2018	2 (40)	2,213	55
Drake Stadium	Fall 2022/Winter 2023	1 (20)	38	1.9
* Demolition will occur between March and April 2018, and site preparation/grading will be initiated in July 2018.				

As shown in Table 4.14-5, the Lot 15 and Warren Hall projects would together generate an estimated 99 tons per day of demolition debris requiring landfill disposal, the UNEX project would generate an estimated 55 tons, and the Drake Stadium site would generate approximately 1.9 tons per day.

As shown in Table 4.14-1, as of the end of 2015, the combined remaining average daily intake of the Sunshine and Chiquita Canyon Landfills (the landfills that currently receive municipal solid waste generated at UCLA) is 6,953 tons per day (18,100 tons daily capacity minus 11,147 average daily intake as of 2015) (LACDPW 2016). The daily volumes of debris requiring disposal (i.e., after diversion) during the demolition/site preparation/grading periods for the Lot 15/Warren Hall and the UNEX projects represent approximately 1.4 and 0.8 percent, respectively, of the currently estimated remaining daily intake at the local landfills that serve the campus. This amount of daily waste requiring disposal would occur for a finite period, a cumulative period of approximately 5 months, and would be substantially reduced during the remainder of the construction period for each housing project as indicated in Table 4.14-4. The minimal volume of daily waste for the Drake Stadium site is far less than the volumes for the Lot 15 and Warren Hall sites, and would represent approximately 0.01 percent of the remaining daily capacity. Therefore, consistent with the finding of the March 2009 LRDP Amendment Final EIR, construction of the proposed Project would result in a less than significant impact to landfill space with implementation of PP 4.14-3 and PP 4.15-1.

Operation

Implementation of the development contemplated by the Existing LRDP was estimated to generate an additional 1,586 tons per year of solid waste (based on a generation factor of 1.57861 pounds per year/gsf[5]), for a projected total solid waste stream by the campus of 20,908 tons per year. Based on this solid waste generation factor, the proposed Project, with a net increase of 1,500,000 gsf would generate a net increase of approximately 1,184 tons per year of solid waste compared to existing conditions.

With respect to regulations related to solid waste, UCLA currently surpasses the established 75 percent diversion goal identified in the UC Policy on Sustainability and the State requirement (under AB 939) for local governments to divert 50 percent of the solid waste generated, achieving an average waste diversion of approximately 77 percent (Dudman 2017). Additionally, consistent with the UC Sustainability Policy, UCLA is committed to achieving a 90 percent diversion rate by 2020 and zero waste by 2025 (Dudman 2017). As required by PP 4.14-3, this will accomplished

55 This solid waste generation factor is based on the amount of solid waste generated on campus in 2007 with a waste diversion of 42 percent.

through the implementation of UCLA's solid waste reduction and recycling program, which includes, but is not limited to, recycling; use as green waste; and conversion from waste to energy. It is estimated that the proposed housing projects would be completed and become operational in 2021 (Lot 15 and UNEX sites), 2022 (Warren Hall site), and 2025 (Bradley and Drake Stadium sites). Therefore, there would be a period of time when the Lot 15, Warren Hall, and UNEX housing projects (a net increase of 1,138,000 gsf) are operational when the campus is diverting 90 percent of its waste. For purposes of this analysis, it is estimated these three housing projects would generate approximately 898 tons of solid waste per year (based on the generation factor of 1.57861 pounds per year/gsf). After applying a 90 percent diversion factor, it is anticipated these projects would generate approximately 90 tons per year requiring landfill disposal (approximately 0.25 tons per day). This represents approximately 0.004 percent of the currently estimated remaining daily capacity (6,953 tons) at the local landfills that serve the campus. Therefore, the proposed Project would not contribute a significant amount of landfill waste and these landfills would have sufficient permit capacity to accommodate the proposed Project's solid waste disposal between 2021 and 2025. It should also be noted that the campus' waste diversion would continue to increase during this period, with 100 percent diversion by 2025. With 100 percent solid waste diversion by 2025, there would no landfill disposal of solid waste associated with operation of the proposed housing projects after 2025. There would not be a significant long-term impact to landfill capacity.

In summary, consistent with the findings of the March 2009 LRDP Amendment Final EIR, there would be a less than significant impact related to solid waste disposal from construction and compliance with solid waste regulations, and no significant impact from operation of the proposed Project with implementation of PPs 4.14-3 and PPs 4.15-1. No mitigation is required.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would have a less than significant impact related to landfill capacity and solid waste disposal. Additionally, the proposed Project would comply with all applicable federal, State, and local statutes and regulations related to solid waste.

Threshold 14.8	Would the project create other utility and service system impacts?

The analysis of Impacts 4.14-7 through 4.14-9 in Section 4.14, Utilities and Service Systems, of the March 2009 LRDP Amendment Final EIR concluded that, with implementation of PP 4.14-9, there would be a less than significant impact related to the need to construct new or expanded energy (electricity and natural gas) production or transmission facilities. It should be noted that the discussion of Energy Conservation pursuant to Appendix F of the State CEQA guidelines is provided in Section 6.5 of this Draft SEIR.

Implementation of the proposed Project would increase the campus' annual electrical and natural gas demand. Table 4.14-6, Estimated Annual Energy Demand, summarizes the estimated electrical and natural gas demand for each proposed housing project and in total for the proposed Project. This takes into consideration the requirement for the buildings to exceed Title 24 energy efficiency requirements by 20 percent or more, consistent with the UC Sustainable Practices Policy and PP 4.14-9 (the calculations below assume 20 percent better than 2016 Title 24).

TABLE 4.14-9
ESTIMATED ANNUAL ENERGY DEMAND

Proposed Housing Project	Electricity (Million kWh/yr)	Natural Gas (MMBTU/yr)
Lot 15	1.46	2,990
Warren Hall	2.69	5,510
UNEX	1.45	2,970
Bradley	0.99	2,030
Drake Stadium	0.50	1,030
Totals	**7.09**	**14,530**

MkWh/yr: million kilowatt hours per year; MMBTU/yr: million British thermal units per year

Note: totals may not add due to rounding

As shown in Table 4.14-6, the proposed Project would increase the annual electrical demand by approximately 7.09 million kWh/yr and the natural gas demand by approximately 14.53 MMBTU/yr. The existing and combined 2016 electrical demand at Warren Hall and UNEX is 3.8 million kWh/yr; thus the net new electrical demand would be 3.29 million kWh/yr. For natural gas, Warren Hall and UNEX currently use 12,473 MMBTU/yr, therefore the net new natural gas demand would be 2,057 MMBTU/yr. UCLA would continue to comply with current applicable energy efficiency standards established by the State, and the UC and would incorporate energy conservation measures as required by PP 4.14-9. Energy conservation is further discussed in Section 6.0, Other CEQA Considerations, of this Draft SEIR.

Based on peak demand factors, electricity and natural gas would be supplied to the proposed Project via existing lines and associated on-site infrastructure, as discussed below for each site.

- **Lot 15 Site.** As previously identified, there are existing electric and natural gas facilities within and adjacent to this site (refer to the site survey provided in Figure 3-3). The proposed buildings would be served by connections to these existing facilities. Additionally, an outdoor generator (estimated 650 kilowatts [kW]), a domestic boiler (estimated 13,500 thousand British Thermal Units [MBH]), and a heating boiler (estimated 12,100 MBH) would be installed to serve the proposed uses. The actual sizing of these facilities would be determined during final design. No new or expanded energy infrastructure, beyond the installation of on-site facilities that would connect to existing utility lines would be required.
- **Warren Hall Site.** As previously identified, there are existing electricity and natural gas facilities within and adjacent to this site. The proposed buildings would be served by connections to these existing facilities. The proposed buildings at this site would be served by the existing transformer located at the Science and Technology Research Building and 12.4 kVA loop that currently serves Warren Hall and the Weyburn Terrace Phase 1 housing, and extends to the existing UNEX building. Additionally, an outdoor generator (estimated 750 kW), a domestic boiler (estimated 19,900 MBH), and a heating boiler (estimated 12,100 MBH) would be installed to serve the proposed uses. The actual sizing of these facilities would be determined during final design. No new or expanded energy infrastructure, beyond the installation of on-site facilities to connect to existing utility lines would be required.
- **UNEX Site.** As previously identified, there are existing electricity and natural gas facilities within and adjacent to this site. The proposed buildings would be served by connections

to these existing facilities. The proposed buildings at this site would also be also served by the existing transformer located at the Science and Technology Research Building and 12.4 kVA loop that currently extends to the existing UNEX building. Additionally, an on-site generator and boiler(s) would be installed to serve the proposed uses. It is expected one generator would be needed (estimated at 1,250 kW), and three boilers of equal size (estimated total of 5.6 MBTU); the existing boiler at the site would be reused. The actual sizing of these facilities would be determined during final design. No new or expanded utility infrastructure beyond the installation of on-site facilities that would connect to existing utility lines would be required.

- **Bradley Site.** There are existing electricity and natural gas facilities within and adjacent to this site. The proposed buildings would be served by connections to these existing facilities. Additionally, similar to the other sites, an on-site generator and boiler(s) would be installed to serve the proposed uses; the sizing of these facilities would be determined during final design. No new or expanded utility infrastructure beyond the installation of on-site facilities that would connect to existing utility lines would be required.
- **Drake Stadium Site.** There are existing electricity and natural gas facilities within and adjacent to this site. The proposed buildings would be served by connections to these existing facilities. Additionally, similar to the other sites, an on-site generator and boiler(s) would be installed to serve the proposed uses; the sizing of these facilities would be determined during final design. No new or expanded utility infrastructure beyond the installation of on-site facilities that would connect to existing utility lines would be required.

The electricity and natural gas infrastructure connections would primarily require removal of existing asphalt surfaces and/or shallow excavation. Substantial demolition or significant excavation would not be required as these utilities are located near the surface. Construction impacts anticipated to result from installation of this utility infrastructure are comprehensively analyzed throughout this Draft SEIR; of particular relevance are Sections 4.2 (Air Quality), 4.10 (Noise and Vibration), and 4.13 (Transportation/Traffic). Therefore, consistent with the conclusion presented in the March 2009 LRDP Amendment Final EIR, there would be a less than significant impact related to the need to construct new or expanded electric and natural gas facilities and no additional mitigation would be required.

Additional Project-Level Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

The proposed Project would require the installation of new electricity and natural gas infrastructure to connect to existing infrastructure. The physical limits of utility construction are within the impact area addressed throughout this Draft SEIR.

4.14.4 CUMULATIVE IMPACTS

Water Supply and Infrastructure

As identified in the March 2009 LRDP Amendment Final EIR, the geographic context for the analysis of cumulative water supply is the City of Los Angeles, including all cumulative growth therein, as represented by the full implementation of allowed development under the Existing LRDP, and growth anticipated in the LADWP 2015 UWMP , which would include development of the cumulative projects identified in the “Cumulative Impacts” discussion in Section 4.0, Introduction to Environmental Analysis, of this Draft SEIR. The LADWP water service area is

slightly larger than the legal boundary of the City of Los Angeles. In addition to the City of Los Angeles, LADWP also provides water service to portions of West Hollywood, Culver City, Universal City, and small portions of the County of Los Angeles. Demographic projections were provided for the LADWP service area by Metropolitan who received projected demographic data from SCAG. SCAG allocated its 2012 RTP/SCS demographic data into water service areas for Metropolitan's member agencies for use in preparation of demand projections in their respective 2015 UWMPs. With respect to population growth, as further discussed in the WSA included in Appendix I of this Draft SEIR, LADWP's service area population is expected to continue to grow over the next 25 years at a rate of 0.5 percent annually leading to approximately 493,200 new residents over the next 25 years.

As with existing conditions, the LAA, local groundwater, purchased imported water from the Metropolitan Water District of Southern California (Metropolitan), and recycled water will continue to be the primary sources of water supplies for the City. In their 2015 UWMP, a major goal of LADWP is to reduce reliance on imported water, first from Metropolitan and then from the LAA system. Notably, the Sustainable City pLAn calls for a reduction in purchased imported water by 50 percent by 2025 from the FY 2014 level by reducing water demand through increased conservation; increased local supply development; and increased recycled water production and use.

Projected water demands for the LADWP water service area through the planning period, 2020 through 2040, under normal year hydrologic conditions, were previously shown in Table 4.14-4. The normal year, single-dry year, and multiple-dry year water supply reliability summaries are shown in Table 4.14-4, Table 4.14-5, and Table 4.14-6, respectively, and include not only the water demand for anticipated growth in the City but also the water demand from the proposed Project and implementation of development on campus based on the remaining development allocation in the Existing LRDP (174,615 gsf).

The projected supply portfolio under multiple-dry year conditions is almost identical to that under single-dry year conditions. The only difference being slight changes in the LAA water supply. In their normal year, single-dry year and multiple-dry year tables, LADWP balanced demand with supply by adding up all other demands and showing Metropolitan as the last supply to balance demands. They then show Potential Supplies of 40,000 AFY in water transfers, which could potentially further reduce Metropolitan imports. For the WSA prepared for the proposed Project, the additional demand of the proposed Project and implementation of development on campus based on the remaining development allocation in the Existing LRDP come from corresponding additional supplies from Metropolitan. And, since Metropolitan has demonstrated in its 2015 UWMP that they have a surplus in all scenarios, LADWP is projected to have sufficient water supply to meet all of its future demands including the demands from the proposed Project and other development on campus for normal year, single-dry year, and multiple-dry year conditions through the planning period (2020 to 2040). Therefore, the water supplies are sufficient to provide for overall City-wide growth at the rate projected in LADWP's 2015 UWMP. The proposed housing projects would not result in a cumulatively considerable contribution to a significant cumulative water supply impact, and water supply impacts are less than significant.

Individual cumulative development projects would require the construction of necessary infrastructure (e.g., water lines, reservoirs, pump stations) to serve each new project. These cumulative projects may also need upgrade or replacement of water infrastructure to serve the proposed use; however, this determination is speculative and would be determined on a project-by-project bases. Based on the densely built-out nature of the project area, it is expected that the typical impacts of any infrastructure improvements that would be needed would be limited to temporary disturbance in the public right-of-way. The potential environmental impacts associated with these construction activities would be primarily related to temporary increased noise and air

pollutant emissions and traffic disruption, and would cease once construction was completed. Although the location and scope of these impacts cannot be quantified at this time, as this would be speculative, they would be evaluated in project-specific environmental documentation and are typically less than significant due to the relatively small scale and finite construction period. Additionally, as noted above, the existing utilities in the project area have the capacity to accommodate the proposed housing projects and no upgrades, aside from lateral connections, would be required. Therefore, the proposed housing projects would not result in a cumulatively considerable contribution to a significant cumulative impact related to installation of water infrastructure. This impact is considered less than significant, consistent with the conclusions of the March 2009 LRDP Amendment Final EIR.

Wastewater Infrastructure and Treatment

Cumulative growth in the HWRP service area, discussed previously, could result in the need for additional conveyance infrastructure. The potential environmental impacts associated with these construction activities would be primarily related to increased noise and local and regional air pollutant emissions. These impacts cannot be quantified at this time, and would be evaluated in project-specific environmental documentation. However, due to the built-out, urban nature of most of the service area, it is not expected that such expansion of conveyance infrastructure would result in significant environmental effects, including the necessary upgrades to sewer lines needed to serve the proposed projects at the Lot 15, Bradley, Drake, and Warren Hall sites. Consequently, the proposed housing projects would not result in a cumulatively considerable contribution to a significant impact. Cumulative impacts would be less than significant, consistent with the conclusions of the March 2009 LRDP Amendment Final EIR.

Development of cumulative projects in the HWRP service area would generate additional quantities of wastewater requiring treatment at the HWRP, depending on net increases in population, square footage, and intensification of uses. The HWRP is currently operating at approximately 57 percent of capacity (Kim 2017). The proposed Project's wastewater generation represents approximately 0.18 percent of the remaining capacity. Additionally, the campus would continue to implement water conservation measures that would result in a concomitant decrease in wastewater generation. The proposed Project's incremental increase in wastewater generation is nominal and would not be cumulatively considerable. Therefore, the proposed housing projects would not result in a cumulatively considerable contribution to a significant cumulative impact. Cumulative impacts would be less than significant, consistent with the conclusions of the March 2009 LRDP Amendment Final EIR.

Solid Waste

As described in the March 2009 LRDP Amendment Final EIR, the cumulative analysis of solid waste focuses on the remaining capacity of landfills serving UCLA and the significance of the incremental contribution of solid waste to that capacity. Development of cumulative projects would produce additional quantities of solid waste, depending on net increases in population, square footage, intensity of uses, and quantities of demolition debris generated by redevelopment projects. These projects would contribute to overall regional solid waste disposal and landfill demand. The County of Los Angeles Department of Public Works has determined that there will be insufficient landfill space without implementation of out-of-County disposal options currently being implemented (LADPW 2016). Additional capacity may or may not be available at Orange County landfills, which currently contract with certain waste haulers to accept waste from the City of Los Angeles, but as development proceeds in Orange County, acceptance of waste from Los Angeles may be eliminated.

As discussed above, the daily volumes of debris requiring disposal (i.e., after solid waste diversion) during the demolition/site preparation/grading periods for the Lot 15/Warren Hall and the UNEX projects represent approximately 1.4 and 0.8 percent, respectively, of the currently estimated remaining daily intake at the local landfills that serve the campus. The minimal volume of daily waste for the Drake Stadium site is far less than the volumes for the Lot 15 and Warren Hall sites, and would represent approximately 0.03 percent of the remaining daily capacity. Regarding operational waste, the five housing projects would be completed and become operational between 2021 and 2025. As discussed previously, there would be a period of approximately 3 to 4 years when the Lot 15, Warren Hall, and UNEX projects (a net increase of 1,138,000 gsf) are operational when the campus is diverting 90 percent of its waste; and would generate approximately 90 tons per year (approximately 0.25 tons per day) requiring landfill disposal from 2021-2025. This represents approximately 0.004 percent of the currently estimated remaining daily capacity at the local landfills that serve the campus. . Even with consideration of substantial anticipated growth in the City of Los Angeles, the County of Los Angeles, and the greater regional area that cumulatively contribute to various private and County-operated landfills, with the minimal contribution of solid waste from the proposed housing projects during construction and operation, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to landfill capacity. Also, because of UCLA's commitment to achieve 100 percent waste diversion by 2025, which would apply to all existing and future campus development, implementation of development on campus would not hamper the City's ability to reach its State-mandated waste diversion goals. Additionally, cumulative development in the City is required to comply with the City requirements for diversion of solid waste. The proposed housing projects would not result in a cumulatively considerable contribution to a significant cumulative impact related to solid waste regulations. Cumulative impacts would be less than significant, consistent with the conclusions of the March 2009 LRDP Amendment Final EIR.

Electricity and Natural Gas

For cumulative impacts related to electricity, the geographic context is the 465-square-mile electrical service area of the LADWP, which provides electricity to 1.4 million customers in Los Angeles and over 5,000 customers in the Owens Valley (LADWP 2017b) With regard to natural gas cumulative impacts, the geographic context is the approximate 20,000-square-mile SoCalGas service area, which provides natural gas to approximately 21.4 million consumers through 5.9 million meters in more than 500 communities (SoCalGas 2017).

As with water and wastewater infrastructure analyses, the focus of this analysis is on the need for new or expanded facilities, the construction of which could cause environmental impacts. The assessment of Project-specific electric and natural gas demand above is predicated on the determination of what infrastructure is necessary to support the anticipated demand. Individual cumulative development projects would require the construction of necessary infrastructure (e.g., overhead or underground electric lines, transformers, natural gas pipelines, meter boxes) to serve each new project. These cumulative projects may need upgrade or replacement of electric and natural gas infrastructure to serve the proposed use; however, this determination is speculative and would be determined on a project-by-project bases. Based on the densely built-out nature of the area, it is expected that the typical impacts of any infrastructure improvements that would be needed would be limited to temporary disturbance in the public right-of-way. The potential environmental impacts associated with these construction activities would be primarily related to temporary increased noise and air pollutant emissions and traffic disruption, and would cease once construction was completed. Although the location and scope of these impacts cannot be quantified at this time, as this would be speculative, the cumulative projects would be evaluated in project-specific environmental documentation and are typically less than significant due to the relatively small scale and finite construction period. Additionally, as noted above, the existing

electric and natural gas infrastructure in the project area has the capacity to accommodate the proposed housing projects and no upgrades, aside from on-site connections and facilities would be required. Therefore, the proposed housing projects would not result in a cumulatively considerable contribution to a significant cumulative impact related to the need for new or expanded electric and natural gas infrastructure. This impact is considered less than significant, consistent with the conclusions of the March 2009 LRDP Amendment Final EIR.

Additionally, new development on campus and cumulative development projects would also have to be evaluated on a project-by-project basis by LADWP and SoCalGas, which would serve the electrical and natural gas requirements of the projects. Individual projects would be required to pay applicable service fees at the time of development to obtain services.

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SECTION 5.0 ALTERNATIVES TO THE PROPOSED PROJECT

5.1 INTRODUCTION

5.1.1 PURPOSE AND SCOPE

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (State CEQA Guidelines, Section 15126.6). This chapter identifies potential alternatives to the proposed Project and evaluates them, as required by CEQA.

Key provisions of the State CEQA Guidelines on alternatives (Sections 15126.6[b]–15126.6[f]) are summarized below to explain the foundation and legal requirements for the alternatives analysis in the EIR.

- "The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objective, or would be more costly" (15126.6[b]).
- "The specific alternative of 'no project' shall also be evaluated along with its impact" (15126.6[e][1]).
- "The 'no project' analysis shall discuss the existing conditions at the time the Notice of Preparation is published, and at the time the environmental analysis is commenced, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives" (15126.6[e][2]).
- "The range of alternatives required in an EIR is governed by the 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)" (15126.6[f]).
- For alternative locations, "only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR" (15126.6[f][2][A]).
- "If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal plant or mining project which must be in close proximity to natural resources at a given location" (15126.6[f][2][B]).

- "An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative" (15126.6[f][3]).

Pursuant to the guidelines stated above, a range of alternatives to the proposed Project, which is described in detail in Section 3.0, Project Description, of this Draft SEIR, is considered and evaluated in this Draft SEIR. These alternatives were developed in the course of project planning and environmental review.

5.1.2 PROJECT OBJECTIVES

As stated in Section 3.2 of this Draft SEIR and pursuant to Section 15124 of the State CEQA Guidelines, the following objectives have been established for the proposed Project to aid decision makers in their review of the proposed Project and its associated impacts.

1. Provide new, on-campus, undergraduate and graduate student housing that improves the quality of student life, supports the academic experience, and fosters the personal and social development.
2. Provide up to 6,900 undergraduate and graduate student beds in on-campus housing to address current and anticipated demand consistent with the Student Housing Master Plan goals.
3. Continue the development of University-owned housing to ensure that student housing remains affordable, while providing different housing options to meet the needs of a diverse group of UCLA students.
4. Continue the transformation of the UCLA campus from a commuter to a residential campus, which reduces vehicle miles traveled and energy consumption.
5. Provide University-owned housing that is competitive in the surrounding Westwood residential housing market, offering units below current rental market rates for similar style units.
6. Provide additional on-campus student housing that includes apartment-style housing, which is considered essential for the recruitment of outstanding graduate and transfer students and for the retention of upper division undergraduates.
7. Provide additional on-campus, dormitory-style housing for first- and second-year undergraduates.
8. Provide on-campus student housing that maximizes the use of limited land resources through dense development of on-campus sites, consistent with a mature urban University.
9. Provide new on-campus graduate housing in the Southwest zone of campus that is designed to continue to build a graduate-level community proximate to academic, recreation, and social resources.
10. Site and develop new student housing proximate to existing University housing to bridge efficiencies in the availability of dining services, recreational facilities, and resident student programming.
11. Plan, design, and implement the proposed Project in a manner consistent with the UC Policy on Sustainable Practices.

5.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

As previously mentioned, an EIR should consider a range of feasible alternatives that would attain most of the project objectives listed above, while reducing one or more of the significant and unavoidable impacts of the project. Significant and unavoidable impacts that would result from implementation of the proposed Project include those listed below.

- **Cumulative Construction-related Air Quality Emissions.** While the combined construction emissions from the proposed housing projects would be less than significant, construction of the proposed housing projects would potentially contribute to a cumulatively considerable net increase of ozone (O_3), a pollutant for which the Southern California Air Basin (SoCAB) is in nonattainment (volatile organic compounds [VOC] and nitrogen oxides [NOx] are O_3 precursors).
- **Cumulative Operational Air Quality Emissions.** While the combined operational emissions of O_3 precursors from the proposed housing projects would be less than significant, the operations of the proposed housing projects would contribute to a cumulatively considerable net increase of O_3, a pollutant for which the SoCAB is in nonattainment.
- **Historic Resource Impact.** Implementation of the proposed housing development on the Warren Hall site would require demolition of the existing Warren Hall building, which is considered a historic resource under CEQA. The demolition of this building would be considered a significant and unavoidable impact.
- **Construction-Related Noise.** Construction activities for each of the proposed housing projects, would result in a significant and unavoidable impact related to a substantial temporary or periodic increases in ambient noise levels at on-campus sensitive uses. Construction activities for the Warren Hall, UNEX, and Bradley sites would also result in a significant and unavoidable impact related to substantial temporary or periodic increases in ambient noise levels at off-campus sensitive uses.
- **Cumulative Construction-Related Noise.** Concurrent construction activities associated with the proposed housing projects at the Warren Hall and UNEX sites and the previously approved Margan Apartments Redevelopment project, which is located between the two sites, could result in cumulative construction-related noise impacts to sensitive receptors in the vicinity of the Warren Hall and UNEX sites.
- **Cumulative Construction-Related Traffic.** Due to the potential overlap between the proposed Project construction and other current and future construction projects on- and off-campus, the proposed Project has the potential to contribute to significant and unavoidable cumulative construction-related traffic impacts from truck trips.

5.3 ALTERNATIVE CONSIDERED AND REJECTED FROM FURTHER CONSIDERATION

Section 15126.6(c) of the State CEQA Guidelines specifies that an EIR should (i) identify alternatives that were considered by the lead agency but were eliminated from detailed consideration because they were determined to be infeasible during the scoping process and (ii) briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are (i) failure to meet most of the basic project objectives; (ii) infeasibility; and/or (iii) inability to avoid significant environmental impacts (State CEQA Guidelines, Section 15126.6[c]).

The following alternatives were considered during the scoping and planning process but were not selected for detailed analysis in this Draft SEIR.

- Alternative Off-Campus Site or Sites
- Alternative On-Campus Site or Sites
- Alternative Land Use Program (Non-Residential)

5.3.1 ALTERNATIVE OFF-CAMPUS SITE OR SITES

The proposed LRDP Amendment (2017) and Student Housing Projects is solely related to the provision of on-campus undergraduate and graduate student housing and support services that meet the objectives identified in Section 5.1.2, previously presented in this section. One alternative concept that was considered and rejected as failing to meet the Project objectives was off-campus siting of the proposed student housing and associated support services. Pursuing off campus sites to implement the proposed housing program assumed by the proposed LRDP Amendment (2017) (1,715,000 gsf of new development and up to 6,900 beds) would require the availability of land near the campus that can be purchased for this amount of high-density housing; the cost of land acquisition would likely make the housing unaffordable. In addition to requiring acquisition of off-campus land, off-campus housing would not meet the Project objectives, including the essential objectives to "Provide new, on-campus, undergraduate and graduate student housing that improves the quality of student life, supports the academic experience, and fosters their personal and social development" and "Continue the transformation of the UCLA campus from a commuter to a residential campus, which reduces vehicle miles traveled and energy consumption." Off-campus housing would be physically separated from on-campus housing facilities and the core housing support facilities on campus, and would not take advantage of programmatic synergies with existing on-campus facilities and programs. This is most important for undergraduate housing, which is the primary type of housing be addressed by the proposed Project; 6,412 of the proposed 6,900 beds (93 percent) are for undergraduate students.

The synergies experienced with on-campus housing are particularly notable in the Northwest zone where the on-campus dormitory-style undergraduate housing is provided and in the Southwest zone where the Weyburn Terrace graduate student housing community is developed. As shown in Figure 3-2 in Section 3.0, Project Description, of this Draft SEIR, the Lot 15 site and Bradley site are in the Northwest zone, and the Drake Stadium site (in the Central zone) is immediately adjacent to residential uses in the Northwest zone. As part of the proposed Project, these sites would accommodate on-campus, dormitory-style housing for first- and second-year undergraduates in proximity to the same types of uses, which could not be accomplished by development off campus. Further, the provision of on-campus apartment-style housing is considered essential for the recruitment of outstanding graduate and transfer students and for the retention of upper division undergraduates. The Warren Hall site and UNEX site, which are currently underutilized, provide apartment-style housing in campus zones that currently provide these types of housing opportunities. The Warren Hall site, the only site proposed for graduate student housing, is in the Southwest zone and is surrounded to the north, west, and south by existing on campus Weyburn Terrace graduate student housing. Additionally, the Warren Hall site is adjacent to the on-campus Margan Apartments site in the Bridge zone, which is currently being redeveloped with apartments and support uses for upper division undergraduate and transfer students. The UNEX site is in the Bridge zone and is also adjacent to the Margan Apartments site. The development of proposed apartment-style units for upper division undergraduate and graduate students on campus at the Warren Hall and UNEX sites would take advantage of programmatic synergies with existing on-campus facilities and programs, and would provide a seamless transition for this type of use in the Southwest zone, through the Bridge zone to the main campus. This synergy could not be accomplished at disconnected off-campus locations.

With respect to environmental impacts, with the exception of removal of a historic resource, development of the proposed student housing projects at an off-campus location(s) would not lessen any of the identified potential significant and unavoidable environmental impacts of the proposed Project. Conversely, it is expected that the environmental impacts at an off-campus site would have similar or potentially greater impacts than the proposed Project. As identified through the analysis presented in Section 4.0 of this Draft SEIR, the proposed Project would result in potential significant and unavoidable cumulative construction-related and operational air quality impacts; construction-related noise impacts due to proximity to existing sensitive uses (on and off campus); potential cumulative construction-related noise impacts; and potential cumulative construction-related traffic impacts. The proposed housing projects collectively would not result in project-specific air quality impacts during construction or operation; however, construction and operation of these housing projects in conjunction with potential cumulative development in the area may result in cumulative impacts. This condition would also occur if the same level of development (1,500,000 gsf and up to 6,900 beds) is proposed off campus. Due to the highly developed nature of the areas surrounding the campus where any off-campus housing would likely be developed, it is anticipated that there would be potential construction-related noise impacts to adjacent sensitive uses, consistent with that identified for the proposed housing projects. The cumulative construction-related noise impacts resulting from the proposed student housing projects are specifically related to the location of the proposed Warren Hall and UNEX sites, adjacent to the previously approved Margan Apartments Redevelopment Project. Each of these projects would likely be under construction at the same time. While it is possible that this impact would be avoided with development of the proposed student housing projects off campus, it is possible that there would be adjacent construction activities that would also result in cumulative construction noise impacts.

As discussed in Section 4.13, Transportation/Traffic, the proposed student housing projects on campus would not result in project-specific or cumulative traffic impacts. This is because the provision of on-campus housing, with no new parking spaces for the residents (except as required for Americans with Disabilities Act [ADA] compliance), reduces trip generation. Therefore, trip generation and intersection impacts resulting from development of the proposed student housing projects at off-campus locations would likely be greater than the proposed on-campus locations primarily because (1) travel by the students and staff between the off campus locations and the main campus would result in increased vehicular trips, and (2) the trip reduction resulting from use of on-campus transit facilities and implementation of UCLA's Transportation Demand Management (TDM) program would not occur at the same level as the on-campus housing, resulting in reduced use of non-vehicular modes of transportation. With potential increased trip generation and vehicular miles traveled, there would also be an increase in emissions of VOCs and NOx and in greenhouse gas (GHG) emissions associated with mobile sources (e.g., vehicles). Additionally, the development of off campus housing would likely occur at the same time as cumulative projects (on- and off-campus); therefore, the potential cumulative construction-related traffic impacts resulting from the proposed Project would also occur with this alternative.

In summary, while development of off-campus student housing is physically feasible and is currently provided by UCLA, development of the proposed student housing projects off campus would not meet the majority of the proposed Project's objectives and would not reduce or avoid significant and unavoidable air quality, noise, and traffic impacts resulting from the proposed Project and may result in greater traffic and traffic-related impacts (e.g., air quality emissions, GHG emissions). Therefore, further analysis of alternative off-campus site(s) in this Draft SEIR is not required.

It should be noted that an alternative to avoid the significant historic resource impact resulting from demolition of the Warren Hall building has been carried forward in the alternative analysis for the proposed Project and is discussed in Section 5.4.2, below.

5.3.2 ALTERNATIVE ON-CAMPUS SITE OR SITES

During the scoping process for this Draft SEIR and during other community outreach activities conducted by UCLA related to the proposed Project, it was suggested that alternative on-campus sites be considered rather than development of the Lot 15 site. Specifically, it was suggested that development occur in the Southwest zone, on the Parking Lot 11 site in the Northwest zone, or at the Sunset Canyon Recreation Center area. The accommodation of student housing at the Sunset Canyon Recreation Center has been carried forward in the alternative analysis for the proposed Project and is discussed in Section 5.4.4, below.

It was also suggested by one commenter that the growth on campus could be accommodated at another UC campus with more space to "grow"; however, this alternative was not considered in this Draft SEIR as it would not accomplish any of UCLA's LRDP objectives or established objectives for the proposed Project.

With respect to identification of alternative sites on campus, it is important to understand the site selection process/criteria taken into consideration for the currently proposed housing sites. Potential sites had to (1) have the ability to develop the needed program and unit types to meet the objectives of the SHMP 2016–2026 (residence halls [dormitories] for lower division undergraduate students, apartments for upper division undergraduates, and apartments for graduate students); (2) be located in proximity to existing undergraduate and graduate student housing facilities to bridge amenities such as dining, parking (graduate students only), recreation, and others; (3) have existing uses that could be relocated on or adjacent to campus; and (4) be consistent with the physical objectives identified in the Existing LRDP, including to "Site and design facilities to enhance spatial development of the campus while maximizing use of limited land resources".

It is important to note that identifying sites on campus that meet these criteria is further challenged because the availability of developable, on-campus parcels has narrowed over time as new and/or redeveloped facilities have been constructed to meet UCLA's teaching, research, and public service mission; to accommodate increased enrollment levels; and to maintain the campus' position as a top tier higher education institution. In 1978, there was approximately 10.39 million gsf of development on campus or under construction. When the 2002 LRDP was prepared, there was approximately 13.8 million gsf developed on campus. UCLA currently has approximately 18.67 million gsf of space that is either occupied, is currently under construction, or is approved. Therefore, since 1978, UCLA has developed or approved approximately 8.3 million gsf of new buildings on campus, and approximately 4.87 million gsf of this development has occurred since the 2002 LRDP was adopted. The physical environment, facilities, and the quality of campus life are important factors in attracting the highest caliber students and faculty to UCLA. Therefore, development on campus, including student housing, is further driven by the Existing LRPD campus-wide development objectives, which are discussed in Section 4.9, Land Use and Planning, of this Draft SEIR.

Following is a discussion of the selection of each of the proposed housing sites to accommodate the necessary student housing that is the basis for the proposed LRDP Amendment (2017).

- **Lot 15 Site.** As further discussed in Section 4.9, Land Use and Planning, the Lot 15 site has not been developed with residential uses in the past due to the 1978 Stipulated Agreement of Compromise and Order, which currently limits development in this area to "benign uses". In light of the land use restrictions identified in the Order, notwithstanding the continued demand for residence hall/dormitory-style undergraduate housing in the Northwest zone, UCLA did not pursue development of residential housing in the benign use zone after development of the Hitch and Saxon Residential Suites. Since the Hitch

and Saxon Residential Suites were developed, over 3,500 undergraduate beds have been developed in the Northwest zone utilizing then available undeveloped areas, or for the 2008 Northwest Housing Infill Project (NHIP) using an infill development strategy for the needed residential, support, and recreational facilities since there was not a single, large site in the Northwest zone that could accommodate 1,525 bed spaces and the related support facilities.

The Northwest zone is the primary undergraduate residential area on campus. In addition to housing, it includes various housing support uses (e.g., administration, dining, fitness/recreation, study area, etc.) and uses that support the greater academic community (Southern Regional Library and the Krieger Child Care Center). This zone also includes campus-wide recreational and athletic facilities (designated as recreational open space in the Existing LRDP), such as Sycamore Park, the Sunset Canyon Recreation Center, Sunset Canyon Tennis Courts, and Easton Stadium. The lack of development options in the Northwest zone and the current need for housing has required UCLA to now consider additional residential development in the area currently restricted to only benign uses.

With respect to available sites in the Northwest zone, the Lot 15 site provides approximately 3.1-acre of developable area that has been previously developed or is otherwise disturbed, and is adjacent to or in proximity to existing residence halls and housing support facilities. This proposed housing site generally consists of two roughly level pads (referred to herein as the "upper pad" and "lower pad") separated by an approximate 15-foot-high south-facing slope. The upper pad consists of a previous surface parking lot (Lot 15) that is currently used for a portable office structure, and storage containers. The lower pad is currently occupied by a greenhouse and facilities used by the UCLA Housing and Facilities Management departments for storage of parts, material, and plants (Ornamental Horticultural Area buildings). The existing uses on the site are such that they can easily be incorporated into the proposed housing project or relocated in the Northwest zone without developing new space or facilities.

With respect to areas in the Northwest zone, the Lot 15 site is best suited to accommodate the proposed undergraduate student housing project. The proposed Bradley site is also proposed in the Northwest zone and is discussed further below. The proposed development at this site is 353,000 gsf of new building development and 1,800 beds. It should be noted that this level of development does not maximize the capacity of the site, in recognition of its location in the transition area between existing residential development east of De Neve Drive and off-campus residential uses to the west.

The reasons for not considering development of proposed housing anticipated at the Lot 15 site, at the Lot 11 site in the Northwest zone, or in the Southwest zone are further discussed below.

- **Warren Hall Site.** The consideration of the approximate 3.9-acre Warren Hall site for residential development dates back to 2000 when the original Weyburn Terrace graduate student housing complex (previously called the "UCLA Southwest Campus Housing and Parking Project") was considered. The Regents certified the Final EIR (SCH No. 2000051014) and approved design for the Southwest Campus Housing and Parking Phase 1 project in January 2001 (UC Regents 2001). The Final EIR addressed the environmental impacts of Phases 1 and 2 of the housing project. Phase 1 was completed in 2004, and provided 1,386 beds in 840 apartments; parking facilities that accommodate 1,225 vehicles; and support facilities including lounge, laundry, and maintenance space.

  Subsequent to certification of the Southwest Campus Housing and Parking Project Final EIR, the anticipated second phase of graduate student housing was deferred indefinitely because the proposed housing site (i.e., Warren Hall site) could not be obtained due to

budgetary and programmatic constraints. Notably, there was a lack of relocation space for existing research/faculty in the Warren Hall building at that time. Since that time, the Ronald Reagan UCLA Medical Center and Terasaki Life Sciences Building opened; these projects vacated over 1.3 million gsf of space in the previous hospital area of the Center for Health Sciences complex and the Life Sciences Building.

With existing development at this 3.9-acre site being limited to 109,405 gsf, this site is currently underutilized. Because space is now available elsewhere on campus for the offices and research facilities currently housed at the Warren Hall site, UCLA has determined it is appropriate to again pursue residential development of the site. Its location within the originally planned Weyburn Terrace graduate student housing complex and its adjacency to other on- and off-campus residential uses makes it an ideal location for the proposed graduate student housing beds and upper-division undergraduate beds. This site is proposed to accommodate up to 2,350 beds and approximately 650,000 gsf of new building development; this represents approximately 34 percent of the beds proposed, and 38 percent of the new building development proposed.

- **UNEX Site.** The UCLA University Extension Program provides certificate programs and continuing higher education classes. The UNEX building is one of various locations from which the Extension program operates. This building currently serves as the administration building for UCLA Extension Program; therefore, it is occupied largely with office space with some classroom uses. The existing 93,204-gsf UNEX Building is seismically deficient and in need of substantial renovation. Based on a renovation study conducted for the building, the cost of seismic retrofitting and renovation approaches the cost of new construction. Further, the existing building footprint does not optimize the capacity of this approximate 1.0-acre site. The Extension Program has a long-term goal of consolidating all of its functions into one facility. However, the Extension Program has the opportunity to lease space that can accommodate the entire staff and functions in the existing UNEX building. Specifically, the occupants are being relocated to 10960 Wilshire Boulevard, which is adjacent to and across the street from Lot 36 in the Southwest zone and to the Gayley Center, located at 1145 Gayley Avenue, at the southwest corner of Gayley and Kinross Avenues. This relocation is occurring regardless of the proposed housing project.

  The UNEX site is well suited for housing given its location adjacent to the main campus, Westwood Village, and other housing developments on campus (including the Weyburn Terrace housing and the Margan Apartments) and off campus. The proposed Project anticipated development of the UNEX site with up to 1,350 beds in 350,000 gsf of new building development.

- **Bradley Site.** The approximate 1.1-acre Bradley site is an undeveloped slope in the Northwest zone, south of Bradley International Hall (which houses, among other uses, the Dashew Center for International Students and the Office of Residential Life), and undergraduate residence halls and support uses. The Bradley site has been considered for multiple projects over the last decade, but none were pursued due to excavation requirements and visual prominence of the site at a main campus entrance. As undeveloped or infill sites in the Northwest zone have been developed for housing (as discussed above for the Lot 15 site), there are limited locations left. The Bradley site is now being considered for the proposed student housing project due to its ability to provide both undergraduate housing, consistent with land uses in the Northwest zone, and campus services (e.g., dining), as this location is not proximate to other dining facilities. The proposed development at this site is the smallest of the proposed housing sites (122,000 gsf and 600 beds).

- **Drake Stadium Site.** The approximate 1.3-acre Drake Stadium site is a unique housing site that is on the boundary of the Northwest zone and the Central zone. The proposed development of a residential structure at the western boundary of the Central zone over the Drake Stadium concourse would serve as a seamless transition from recreation and athletic uses to the east and the residential uses in the Northwest zone to the west. Additionally, the development of the proposed housing project at the Drake Stadium site would not conflict with the ongoing operation of adjacent and nearby recreation and athletic facilities. The housing program at the Drake Stadium site has been considered in the last five years, but was not seriously pursued previously due to construction costs associated with building over the concourse and the necessary structural reinforcements. As with the Bradley site, due to lack of development options in the Northwest zone, UCLA is now pursuing development of this site notwithstanding the additional costs. The proposed development at this site would involve 240,000 gsf and 800 beds.

Following is a discussion of alternative on-campus sites suggested during the scoping process as alternatives to the Lot 15 housing project, and why they are not carried for analysis is this Draft SEIR.

- **Southwest Zone.** Input received during the scoping process suggested that UCLA should consider siting undergraduate housing in the Southwest zone instead of the Lot 15 site. The Southwest campus zone is approximately 35.5 acres and accommodates a mixture of uses and facilities including academic, research, administrative, and graduate student housing (Weyburn Terrace). Surface parking lot 36 (Lot 36) is the only undeveloped area in the Southwest zone that could potentially accommodate the proposed residential development. Lot 36 is surrounded by Parking Structure 32 to the north, Veteran Avenue to the west, Wilshire Boulevard to the south, and the UCLA Geffen Academy (to open in fall 2017) to the east. Additionally, structures to accommodate the Kinross Recreation Center (used by UCLA graduate students and faculty/staff), which was displaced from the Kinross Building to accommodate the UCLA Geffen Academy, are being constructed at Lot 36.

  Lot 36 has been eliminated from consideration as an alternative to the Lot 15 site component of the proposed Project for various reasons. Most importantly is the potential conflict of the proposed housing development (expected to be constructed and occupied by 2021) with construction of the planned Los Angeles County Metropolitan Transit Authority (Metro) Purple Line Subway extension. Metro will be extending the Metro Purple Line Subway from its current terminus at Wilshire/Western approximately nine miles to the west, terminating at the Veterans Administration Hospital (west of UCLA). The planned subway line would pass along UCLA's southern boundary along Wilshire Boulevard, which is currently developed with Lot 36. To minimize disruption of travel along Wilshire Boulevard, Metro will begin construction of the subway station under Lot 36 in January 2019 and will also use Lot 36 for construction staging. Construction of any permanent development at Lot 36 would hinder construction of this critical regional and local transportation project in this area.

  Additionally, in order to construct the housing at Lot 36, the existing surface parking spaces would need to be replaced, as these spaces provide parking for numerous staff and faculty in the Southwest zone. Due to the limited available land on campus, it is assumed that this parking would be accommodated in a subterranean parking structure located beneath the housing development. Because these spaces are needed for campus operations, during construction of the replacement parking, an interim stack parking plan would need to be implemented elsewhere on campus so as to ensure continued availability of parking for campus users.

- **Lot 11**. Lot 11 is a surface parking lot located north of the Hitch Residential Suites, east of the Krieger Child Care Center, and west of the Sunset Canyon Recreation Center. This site is located at the northern end of the Northwest zone and further from classes and the undergraduate residential community in this zone. The parking provided at Lot 11 serves a critical function for operations in the Northwest zone. Lot 11 currently provides proximate parking for campus employees who work at Housing and the Krieger Child Care Center, and also accommodates contractor parking for Housing's ongoing refurbishment projects. Additionally, Lot 11 serves as a key staging area for move-in and move-out activities for residential uses throughout the Northwest zone, and for summer conference logistics. If Lot 11 were to be developed with other uses, such as housing, the parking spaces would need to be replaced to ensure that these staging and logistics would not be compromised and can absorb the added demand for these uses by the new housing. It is assumed that this would be implemented as underground parking below the housing development. However, the loss of parking during construction would disrupt current housing operations, and would require some form of temporary replacement parking, either as a surface lot or parking structure. This would potentially require purchase of off-campus, proximate land, which would make development of this site is financially infeasible.

  Further, development of this site as part of the currently proposed housing program would require construction of on-site dining due to lack of adjacency to existing services. Providing these support services (limiting the number of beds), and constructing underground replacement parking would increase the construction costs compared to the Lot 15 site (which was removed from the parking inventory in 2009), and would hinder UCLA's ability to offer competitively priced units.

  With respect to environmental impacts, it is important to note that the proposed housing project at the Lot 15 site would not result in any site-specific significant environmental impacts that warrant consideration of an alternative site. The significant and unavoidable cumulative air quality impacts during construction and operation, and cumulative construction-related traffic impacts, would occur regardless of where the development occurs on campus and would not be avoided by developing the proposed housing at the Lot 15 site at a different location. Rather, with the need to develop underground parking at the Lot 36 and Lot 11 sites, it is likely that construction-related cumulative air quality and traffic impacts (including truck trips associated with hauling excavated soil from the campus) would be increased. The significant and unavoidable historic resource impact is specific to the Warren Hall site and the cumulative noise impacts are specific to the Warren Hall and UNEX sites, which are in proximity to each other and adjacent to the Margan Apartments Redevelopment Project. Construction at the Lot 15 site would not cause noise impacts at off-campus uses, and construction-related noise impacts to on-campus uses would likely occur at any other site on campus (consistent with each of the proposed housing projects). With respect to aesthetics, the Lot 11 site is at a higher elevation than the Lot 15 site, and development of the Lot 11 site would result in the housing structures being more visually prominent from off-campus vantage points to west in the Westwood Hills neighborhood.

Therefore, further consideration of alternatives to the proposed housing project at the Lot 15 site are not warranted; however, to address input provided by the community, the accommodation of student housing at the Sunset Canyon Recreation Center has been carried forward in the alternative analysis and is discussed in Section 5.4.4, below.

5.3.3 ALTERNATIVE LAND USE PROGRAM (NON-RESIDENTIAL)

As described in Section 3.0, Project Description, of this Draft SEIR, the proposed amendment to the Existing LRDP would add 1,500,000 gross square feet (gsf) of developable space allocated specifically to student housing on the UCLA campus. With the LRDP Amendment (2017), UCLA proposes to develop approximately 1,715,000 gsf of new building space to accommodate up to 6,900 beds.

An alternative that considers allocation of the 1,500,000 gsf to other uses (e.g., academic) would not meet any of the project objectives, which focus on providing on-campus student housing. Additionally, development of alternative types of campus uses would likely not avoid the construction-related impacts resulting from the proposed housing projects. Additionally, if on-campus housing is not provided, it can be assumed that additional housing would be needed off campus, which would result in an increase of traffic and associated traffic-related impacts (e.g., air quality, noise, GHG emissions). Therefore, an alternative land use program for the proposed LRDP Amendment is not being carried forward for detailed analysis in this Draft SEIR.

5.4 ANALYSIS OF ALTERNATIVES UNDER CONSIDERATION

The discussion in this section provides the following:

1. A description of alternatives considered.
2. A comparative analysis of the alternatives under consideration and the proposed Project. The focus of this analysis is to determine whether alternatives are capable of eliminating or reducing the significant environmental effects of the proposed Project to a less than significant level. The comparative analysis assumes that applicable March 2009 LRDP Amendment Final EIR campus programs, practices, and procedures (PPs) and mitigation measures (MMs) carried forward for the proposed Project (amended, if applicable) and new PPs and MMs identified for the proposed Project would apply equally to each alternative, as appropriate. Impacts associated with each alternative are compared to project-related impacts and are classified as greater, less, or essentially similar to (or comparable to) the level of impacts associated with the proposed Project.
3. An analysis of whether the alternatives meet most of the objectives of the proposed Project (as presented in Section 3.2 of this Draft SEIR and restated below).

As described in Sections 4.1 through 4.14 of this Draft SEIR, the potentially significant impacts of the proposed Project can be mitigated to a less than significant level with the exception of (1) cumulative construction-related air quality impacts, (2) cumulative operational air quality impacts, (3) loss of a historic resource (Warren Hall), (4) construction-related noise impacts, (5) cumulative construction-related noise impacts (associated with the Warren Hall site and UNEX site), and (6) cumulative construction-related traffic impacts. Based on the criteria listed previously, the four alternatives described below have been determined to represent a reasonable range of alternatives for the proposed Project. The alternatives considered in this Draft SEIR include the following:

- **Alternative 1:** No Project/Development Pursuant to the Existing LRDP
- **Alternative 2:** Warren Hall Building Adaptive Reuse Alternative
- **Alternative 3:** Reduced Development Area/Reduced Beds (No Development at the Bradley Site)

- **Alternative 4:** Alternative Northwest Zone Site (Sunset Canyon Recreation Center)

5.4.1 ALTERNATIVE 1: NO PROJECT/DEVELOPMENT PURSUANT TO THE EXISTING LRDP

Section 15126.6(e) of the State CEQA Guidelines requires than an EIR evaluate a "no project" alternative to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving that project. Section 15126.6(e)(3) of the State CEQA Guidelines describes the two general types of no project alternative: (1) when the project is the revision of an existing land use or regulatory plan, policy, or ongoing operation, the no project alternative would be the continuation of that plan and (2) when the project is other than a land use/regulatory plan, such as a specific development on an identifiable property, the no project alternative is the circumstance under which that project is not processed (i.e., no development).

Because the proposed housing development was not contemplated in the Existing LRDP, an amendment to add 1,500,000 gsf of development allocation on campus is proposed; therefore, it is appropriate for the No Project alternative to assume development pursuant to the Existing LRDP. As previously identified, there is 174,615 gsf of remaining development allocation in the Existing LRDP (not yet allocated for specific development).

Description of the Alternative

Under the No Project/Development Pursuant to the Existing LRDP Alternative it is assumed that development of the remaining LRDP development allocation (174,615 gsf) would occur in the campus zone where the development square footage is allocated: 54,615 gsf in the Central zone, 110,000 gsf in the Core zone, and 10,000 gsf in the Southwest zone. Given the types of uses anticipated in each of these zones, it can be assumed that development in the Central zone would be related to recreational/athletic facilities or other student support services and development in the Core zone would consist of a new academic building. It is possible that development in the Core zone would involve redevelopment of an existing site (including demolition of an existing building). The remaining development allocation in the Southwest zone (10,000 gsf) is likely not sufficient for construction of a new building; therefore, it is also assumed that there would be redevelopment of an existing use.

Comparative Analysis of Environmental Impacts

Aesthetics

Under Alternative 1 (No Project/Development Pursuant to the Existing LRDP), the proposed addition of 1,500,000 gsf of development allocation on campus would not occur and the proposed housing projects would not be constructed. Therefore, the less than significant visual changes resulting from the proposed housing projects, as addressed in Section 4.1, Aesthetics, of this Draft SEIR, would not occur. With the exception of proposed development at the Warren Hall and UNEX sites, which would be in the same viewshed from a limited number of vantage points (primarily looking west from Le Conte Avenue), the visual changes associated with the proposed housing projects would not be in the same viewsheds and are addressed on a site-by-site basis.

As described above, Alternative 1 would involve potential development in the Central zone, Core zone, and Southwest zone. Any future development would be sited and designed in accordance with the physical objectives in the 2002 LRDP, as amended in March 2009; PPs and MMs identified in the March 2009 LRDP Amendment Final EIR to address aesthetic impacts; and the UCLA Physical Design Framework. These requirements are in place to ensure that the architectural detail, mass, building proportion, lighting, and placement and landscaping is

compatible with adjacent uses. As with the proposed housing projects, future development that would occur on campus to implement the remaining development allocation (174,615 gsf) would not substantially degrade the visual quality or character of the site or surrounding areas. Alternative 1 would have similar, less than significant, impacts as the proposed Project related to aesthetics.

Air Quality

Alternative 1 would involve construction activities (including demolition, grading, and excavation) and increased operations on campus, including potential increases in trip generation. Therefore, there would be construction-related and operational air quality emissions.

While the five proposed housing projects collectively would not exceed South Coast Air Quality Management District (SCAQMD) thresholds and would result in less than significant construction-related and operational air quality impacts (refer to Section 4.2, Air Quality, of this Draft SEIR), the reduction in construction activities and amount of new development associated with Alternative 1 would have reduced construction-related and air quality impacts compared to the proposed housing projects.

Although the proposed housing projects would not result in significant project-related construction and operational air quality impacts, when considering construction and operation of the proposed housing in conjunction with cumulative development, it was conservatively determined that they would result in potential significant and unavoidable cumulative impacts. Implementation of the remaining development allocation on campus would likely not occur at the same time, and would not result in construction activities or operations that would have a considerable contribution to cumulative impacts. Therefore, Alternative 1, which would incorporate applicable LRDP Final EIR PPs and MMs to reduce air quality emissions, would avoid significant and unavoidable cumulative air quality impacts that would occur with the proposed Project.

As with the proposed housing projects, Alternative 1 would neither conflict with nor obstruct implementation of the Air Quality Management Plan (AQMP) since neither the proposed housing projects nor this alternative would not provide for population, housing, or employment growth that exceeds Southern California Association of Governments (SCAG) regional forecasts, which form the basis of the land use and transportation control portions of the AQMP.

Implementation of the proposed housing projects and Alternative 1 would not introduce new types of uses or change existing operations on campus; would not expose sensitive receptors to substantial pollutant concentrations or toxic air contaminants; and would not create objectionable odors resulting in a less than significant impact.

Biological Resources

Alternative 1 would involve new development in the Central zone, Southwest zone, and Core zone. Of these zones, the Core zone is the only area that supports sensitive biological resources; the aboveground portion of Stone Canyon Creek is in the Core zone. Future development in the Core zone using the remaining development allocation would not be sited in a location that would impact Stone Canyon Creek. As with the proposed housing projects, it is expected that any development in the Central, Southwest, and/or Core zones would require removal of ornamental vegetation and trees, including mature and protected trees. However, there would be fewer trees that would potentially be removed under this alternative than with the proposed housing projects. As identified in Section 4.2, Biological Resources, of this Draft SEIR, approximately 200 trees, including 170 non-native mature trees and 30 protected trees would be removed with the implementation of the proposed housing projects. As with the proposed housing projects,

development under this alternative would be required to follow applicable LRDP Final EIR PPs and MMs related to the removal of mature trees and the potential disturbance of occupied nests. Although the impacts to biological resources would be reduced with Alternative 1, the proposed housing projects and development of the remaining development allocation on campus would be less than significant.

Alternative 1 and the proposed Project would not impact wildlife movement and would not conflict with an adopted Habitat Conservation Plan or Natural Community Conservation Plan.

Cultural and Tribal Cultural Resources

As discussed in Section 4.4, Cultural and Tribal Cultural Resources, of this Draft SEIR, the proposed housing project at the Warren Hall site would involve demolition of the existing Warren Hall building, which is an eligible historic resource pursuant to CEQA, resulting in a significant and unavoidable impact, even with implementation of the identified MMs. Implementation of Alternative 1, which would involve an increase of only 10,000 gsf of new development in the Southwest zone, would not require demolition of Warren Hall and would avoid this significant and unavoidable impact resulting from the proposed Project. Incorporation of applicable LRDP Final EIR PPs and MMs related to the protection of historic resources in the Core zone would ensure that potential impacts to historic resources with implementation of Alternative 1, which includes 110,000 gsf of development allocation in the Core zone, are less than significant.

With the exception of the Drake Stadium site, implementation of the proposed housing projects involve excavation in previously undisturbed areas. Although there is low potential, excavation activities could result in the disturbance of previously unidentified archaeological and paleontological resources, tribal cultural resources, and human remains with the proposed housing projects and future development pursuant to the Existing LRDP. With incorporation of applicable LRDP Final EIR PPs and MMs related to the protection of these resources, potential impacts would be less than significant for the proposed Project and Alternative 1.

Geology and Soils

As discussed in Section 4.5, Geology and Soils, of this Draft SEIR, geologic and seismic considerations such as the potential for ground shaking, liquefaction, landslides, lateral spreading, subsidence, compressible soils and settlement, and unsuitable soils have been evaluated and determined to be manageable relative to the proposed housing projects with adherence to applicable requirements as outlined in the LRDP Final EIR PPs and MMs. Given that geotechnical conditions across the campus are generally the same, and the types of land use anticipated to be developed under Alternative 1 are not substantially different from a geotechnical and seismic safety standpoint, it is likely that future development on campus under the Existing LRDP would have impacts related to geology and seismicity similar to those associated with the proposed housing projects. As with the proposed Project, these impacts would be less than significant with implementation of the identified LRDP Final EIR PPs and MMs, including adherence to recommendations made in project-specific geotechnical reports.

Development on campus under Alternative 1 and the proposed Project would connect to the municipal sewer system; therefore, no impacts related to soils incapable of supporting septic tanks or alternative wastewater disposal systems would result.

Greenhouse Gas Emissions

As identified in Section 4.6, Greenhouse Gas Emissions, of this Draft SEIR, the estimated annual operational GHG emissions for the proposed housing projects, including amortized construction

emissions would exceed the established SCAQMD screening threshold; however, the proposed Project GHG efficiency of 0.80 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/year) per service population (SP) in 2025 would be substantially less than the efficiency target of 4.2 $MTCO_2e$/year per SP and would also be substantially less than the 2035 target of 3.0 $MTCO_2e$/year per SP. GHG emissions would not either directly or indirectly have a significant impact on the environment with implementation of the proposed housing projects. Development of the remaining development allocation on campus, which likely would primarily involve an academic use in the Core zone and a recreational/athletic facilities or other student support uses in the Central zone, would not be anticipated to generate substantial vehicular trips, if any, and would not generate GHG emissions that exceed the SCAQMD screening threshold. While the GHG emissions with implementation of Alternative 1 would be less than with the proposed housing projects, the impact from the proposed Project would be less than significant.

As with construction and operation of the proposed housing projects, with implementation of the remaining development on campus pursuant to the Existing LRDP, the campus would continue to implement the UC Policy on Sustainable Practices, and UC and UCLA regulatory programs/requirements in place at the time of development, as well as applicable federal, State, and regional plans, policies, and regulations. As with the proposed housing projects, development of the remaining development pursuant to the Existing LRDP would incorporate relevant LRDP Final EIR PPs and would not conflict with plans and policies adopted for the purposes of reducing GHGs, resulting in a less than significant impact.

Hazards and Hazardous Materials

As addressed in Section 4.7, Hazards and Hazardous Materials, of this Draft SEIR, with incorporation of the identified LRDP Final EIR PPs, and project-specific mitigation measures (for the potential impacts at the Lot 15 site), the proposed housing projects would not result in significant hazards or hazardous materials impacts related to the routine transport, use, disposal, and storage of hazardous materials; exposure of construction workers to hazardous materials during construction; release of hazardous materials into the environment; exposure to contaminated soils or groundwater (which is not known to exist on campus); handling of hazardous materials within 0.25 mile of a school; development on identified hazardous sites; exposure of people to safety hazards from the Ronald Reagan UCLA Medical Center (RRUCLAMC) helicopter activities; or interference with an emergency response or evacuation plan.

Implementation of the proposed housing projects would result in the same impacts that would occur with future development on campus in the Core zone, Central zone and Southwest zone, pursuant to the remaining development allocation in the Existing LRDP.. Therefore, the impacts under Alternative 1 would be similar to the proposed housing projects.

Additionally, there are no areas on campus subject to wildland fire hazards; no impact would result with Alternative 1 or the proposed housing projects.

Hydrology and Water Quality

As addressed in Section 4.7, Hydrology and Water Quality, with implementation of the identified LRDP Final EIR PPs and MMs, the proposed housing projects would not result in significant hydrology and water quality impacts. Implementation of the proposed housing projects, which would collectively result in an increase in impervious surfaces, would increase the amount of runoff and associated urban pollutants on campus. Under Alternative 1, the total amount of new development on campus would be substantially reduced compared to the proposed housing projects (1,500,000 gsf compared to 174,615 gsf), resulting in less runoff and potential water

quality issues. However, the runoff is likely to include pollutants consistent with the existing developed campus areas. With incorporation of LRDP Final EIR PPs and MMs, which address compliance with applicable water quality regulations and implementation of Best Management Practices (BMPs), hydrology and water quality impacts from this alternative would be reduced to a level considered less than significant, similar to the proposed housing projects.

As with the proposed housing projects, Alternative 1 would not substantially deplete groundwater supplies or interfere with groundwater recharge. Additionally, as with the proposed housing project, Alternative 1 would not result in runoff that exceeds the capacity of existing storm drain systems or provide substantial additional sources of polluted runoff. Alternative 1 would have similar impacts to the proposed housing projects for these issues.

Additionally, Alternative 1 and the proposed housing projects would not place housing or structures in a 100-year floodplain or expose people or structures to flooding, and would not cause inundation (by seiche, tsunami or mudflow), as the campus is not subject to these conditions.

Land Use and Planning

The No Project/Development Pursuant to the Existing LRDP would involve implementation of the remaining development allocation on campus (174,615 gsf). As with the proposed housing projects, future development on campus would be implemented in accordance with the development objectives in the Existing LRDP, applicable LRDP Final EIR PPs and MMs, and the 2009 UCLA Physical Design Framework, which were established to ensure compatibility between proposed projects and existing development on and off campus. While the proposed housing projects are considered regionally significant, development of the remaining development allocation would not be; therefore, consistency with regional programs is not applicable to Alternative 1. Regardless, development under Alternative 1 would not conflict with regional programs.

Because future development pursuant to the Existing LRDP likely would not involve housing projects, there would be no new housing provided under Alternative 1 to meet the goals outlined in UCLA's *Student Housing Master Plan 2016–2026*. Therefore, Alternative 1 result in a potentially significant land use impact that would not occur with the proposed Project. Because future development pursuant to the Existing LRDP would not occur in the Northwest zone, the Stipulated Agreement of Compromise and Order with the Westwood Hills Property Owners' Association, and Urban Wildlands Group Hillside Use Agreement are not applicable to Alternative 1. However, as analyzed in Section 4.9, Land Use and Planning, of this Draft SEIR, the proposed housing projects do not conflict with these agreements.

Alternative 1 and the proposed housing projects would not divide an established community and would not be subject to the provisions of any adopted Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, no impacts would result.

Noise

Noise and vibration impacts resulting from implementation of the proposed Project are discussed in Section 4.10, Noise and Vibration, of this Draft SEIR. Although the amount of construction associated with development of remaining development allocation pursuant to the Existing LRDP would be reduced compared to the proposed housing projects, the same types of construction activities as the proposed housing projects would be required, including the potential need for demolition and grading. Therefore, the noise levels generated from construction would be the same with Alternative 1 and the proposed housing projects, but the duration of exposure to construction noise would be reduced. As with the proposed housing projects, construction

activities would be conducted in accordance with the PPs and MMs in the LRDP Final EIR. Even though construction-related noise impacts would be reduced to the extent feasible, adjacent sensitive noise receptors on- and off-campus could be exposed to noise levels that exceed the established criteria and would be significant and unavoidable, consistent with the proposed housing projects. With respect to cumulative construction-related noise impacts, the significant and unavoidable impact resulting from the proposed housing projects is specifically related to the concurrent construction activities at the Warren Hall, UNEX, and Margan Apartments sites. It is unlikely that construction activities under Alternative 1 would result in similar cumulative construction-related noise impacts. Therefore, Alternative 1 would avoid this significant and unavoidable temporary impact resulting from the proposed Project.

Construction activities under Alternative 1 would likely occur adjacent to existing uses, similar to the proposed housing projects, and would expose these uses to vibration. However, construction activities would be conducted in accordance with the PPs and MMs in the LRDP Final EIR, including the requirement to use small equipment, as feasible, to reduce vibration impacts to a less than significant levels. Due to the constrained nature of the campus, it is standard practice to use smaller equipment. Therefore, as with the proposed housing projects, vibration impacts during construction would less the significant with Alternative 1.

As discussed in Section 4.13, Transportation/Traffic, of this Draft SEIR, the proposed housing projects would slightly reduce average daily traffic on campus. Implementation of the remaining development allocation on campus pursuant to the Existing LRDP would involve academic, recreation, or other student support uses and would not be expected to generate a substantial amount of new trips, if any. Therefore, consistent with the proposed Project, Alternative 1 would not cause significant traffic-related noise impacts during operation.

As with the proposed housing projects, noise generated from on-campus uses with implementation of Alternative 1 would be similar to existing uses on campus, specifically in the respective zones where development would occur, and would be less than significant.

Alternative 1 and the proposed housing project would not have a significant noise impact related to exceedance of established noise standards. Additionally, as with the proposed housing projects, future development in the Central zone, Southwest zone, and Core zone under the Existing LRDP would not expose people to excessive noise levels from helicopter operations at the Ronald Reagan UCLA Medical Center (RRUCLAMC). The estimated annual 65 A-weighted decibel (dBA) Community Noise Equivalent Level (CNEL) noise level contour for the helicopter operations occurs in the Health Sciences zone and Campus Services zone.

Population and Housing

As identified in Section 4.11, Population and Housing of this Draft SEIR, the proposed Project, which would not increase the total student enrollment, would not increase the on-campus average weekday student population. However, there would be an increase in the number of staff positions on campus (145 new staff positions). These staff positions represent a negligible increase in new jobs when compared to the total existing and projected jobs in the County or even the City of Los Angeles, and would likely be filled by the local labor pool. Implementation of the remaining development allocation on campus under the Existing LRDP would be expected to accommodate existing or already anticipated faculty, students, and staff and would not exceed population and employment projects for the region, consistent with the proposed Project. Therefore, population and housing impacts would be less than significant with both Alternative 1 and the proposed Project.

Additionally, as with the proposed Project, even if uses were to be displaced on campus to accommodate new development under the Existing LRDP, this would not require the construction of housing elsewhere.

Public Services and Recreation

As discussed in Section 4.12, Public Services and Recreation, of this Draft SEIR, implementation of the proposed housing projects and associated increase in staff and the student resident population on campus would increase the demand for public services (fire, police, parks/recreation, and library), but not to an extent that new or expanded facilities would be needed. Under Alternative 1, there would be substantially less new development and there would not be an increase in the student resident population. Therefore, the increase in demand for public services and recreational facilities would be less and there would not be a need for new or expanded facilities, similar to the proposed Project.

As with the proposed Project, Alternative 1 would not include uses that would generate new student population at public schools. No new or expanded school facilities would be needed.

Transportation/Traffic

As identified in Section 4.13, Transportation/Traffic, of this Draft SEIR, the proposed Project, which would involve the development of up to 6,900 undergraduate and graduate beds on campus, would generate 24 fewer AM peak hour trips compared to existing conditions and would generate 12 additional PM peak hour trips. The increase in PM peak hour trips would not cause a significant traffic impact at study area intersections or Congestion Management Plan (CMP) facilities. Implementation of the remaining development allocation on campus pursuant to the Existing LRDP would involve academic, recreation, and other student support uses and would not be expected to generate a substantial number of new trips, if any. Therefore, similar to the proposed Project, the No Project/Development Pursuant to the Existing LRDP Alternative would not result in a significant traffic impacts at study area intersections or CMP facilities.

With respect to construction-related traffic, with the reduction in construction activities and generally smaller size of individual construction projects, Alternative 1 (implementation the remaining development allocation of 174,615 gsf) would generate less construction traffic, including heavy truck trips, compared to the proposed housing projects. However, with adherence to the LRDP Final EIR PPs and MMs and project-specific MM TRF-1, related to construction activities, the impacts from the proposed housing projects would be less than significant for the proposed Project. The proposed housing projects would contribute to potentially significant cumulative construction-related traffic impacts resulting in a potentially significant and unavoidable impact. However, construction activities associated with individual projects implementing the remaining development allocation under the Existing LRDP are not likely to have a considerable contribution to cumulative traffic impact and would therefore avoid this cumulative impact resulting from the proposed Project.

Under Alternative 1, as required by the LRDP Final EIR PP, the campus Transportation Demand Management (TDM) program would continue; therefore Alternative 1 would not conflict with adopted plans, policies, or programs supporting alternative transportation, and impacts would be less than significant, similar to the proposed Project. Additionally, Alternative 1 and the proposed housing projects would accommodate pedestrian and bicycle modes of travel and emergency access during construction and operation, resulting in less than significant traffic impacts.

Utilities and Service Systems

As identified in Section 4.14, Utilities and Service Systems, of this Draft SEIR, the proposed housing projects would result in an increased demand for utilities and service systems (water, wastewater, natural gas, electric, and solid waste). With the exception of upgraded sewer lines in Veteran Avenue and Gayley Avenue, the proposed housing projects would not require the construction of new or expanded facilities beyond that needed to connect proposed uses to existing infrastructure facilities. The physical impacts associated with installation of utility infrastructure and upgraded sewer lines have been addressed in the respective sections of the Draft EIR (e.g., Air Quality, Noise). The implementation of remaining development allocation pursuant to the Existing LRDP would also increase the demand for utilities and service systems, but not to the same extent as the proposed housing projects. It is not expected that upgraded sewer lines would be needed under Alternative 1. Therefore, impacts related to utility infrastructure would be less for Alternative 1 compared to the proposed Project.

With respect to solid waste, Alternative 1 would also generate less solid waste compared to the proposed housing projects; however, consistent with UC Policies, solid waste generated during construction and operation would be diverted from the local landfills. Therefore, solid waste impacts with Alternative 1 and the proposed Project would be similar and would be less than significant.

Ability to Meet the Project Objectives

With the exception of one objective, each of the project objectives established for the proposed Project is related to the provision of on-campus housing. Because implementation of the remaining development allocation under the Existing LRDP would not involve on-campus housing, Alternative 1 would not meet the majority of the project objectives.

Objective 11 is related to implementing development on campus in compliance with the UC Policy on Sustainable Practices. This would be accomplished with any development on campus, including development under the Existing LRDP. Therefore, Alternative 1 would meet this project objective.

5.4.2 ALTERNATIVE 2: WARREN HALL BUILDING ADAPTIVE REUSE

Description of the Alternative

The purpose of the Warren Hall Building Adaptive Reuse Alternative is to address the significant and unavoidable impact to historic resources, which would result with the proposed housing project at the Warren Hall site. As further discussed in Section 4.4, Cultural Resources, of this Draft SEIR, Warren Hall is eligible for listing in the National Register of Historic Place (NRHP) and California Register of Historical Resources (CRHR) because (1) it is the best representation of UCLA's involvement with the Atomic Energy Commission's biomedical research and its contribution to the development of the nuclear medicine field and (2) it embodies the distinctive characteristics of the Midcentury Modern architectural style.

Development at the Warren Hall site is a key component of the proposed housing program. As previously discussed, up to 2,350 beds and 650,000 gsf of new development are proposed at this 3.9-acre site. Further, development of residential uses at this site has been anticipated by UCLA for over 15 years. Therefore, an alternative that assumes the existing building is retained in its current condition has not been considered.

March 2009 LRDP Amendment Final EIR PP 4.4-1(a) identifies that, if a structure is identified as eligible for listing in the CRHR and it is determined that the project could have a significant adverse impact on the structure, design modifications, mitigation measures and/or alternatives that could minimize, avoid, or substantially reduce the impacts should be considered. The Warren Hall Building Adaptive Reuse Building assumes that the existing Warren Hall Building would be adaptively reused for graduate student housing.

To maintain character-defining features of this building and its historic integrity, modifications would be limited to the interior of the building for necessary abatement and renovation. Notably, infrastructure would need to be installed to serve each unit, and new walls would be installed to construct individual units. It should be noted that the removal and replacement of walls has previously occurred during the life of this building to address evolving space needs. The interior renovation would be designed to maintain the double-loaded corridors. Additionally, the building's window wall system would be maintained. Adaptive reuse of this building can be accomplished in compliance with the Secretary of the Interior's Standards; however, this would yield only up to 200 graduate beds. It should be noted that any alternative that includes an addition to the existing building would not maintain the historic integrity of the building and is not being considered.

It is anticipated the Hillbolm Islet Research Building constructed in 2004 would be retained under Alternative 2, and the proposed improvements at the bus turnout/bus pullout on the north side of Weyburn Avenue at the intersection with Weyburn Terrace would also be implemented.

Under Alternative 2, each of the remaining proposed housing projects at the Lot 15, UNEX, Bradley, and Drake Stadium sites would be developed consistent with the proposed Project. Therefore, with implementation of this alternative, the total amount of new development on campus would be 1,065,000 gsf. The existing UNEX building and buildings at the Lot 15 site (totaling 105,500 gsf) would be demolished; therefore, there would be a net increase of 959,500 gsf on campus. The proposed LRDP Amendment under this alternative would reflect this, and the amendment would be to allocate 959,500 gsf of new development to the Existing LRDP.

Comparative Analysis of Environmental Impacts

Aesthetics

Under Alternative 2, the visual changes resulting from development at the Lot 15, UNEX, Bradley, and Drake Stadium sites would be the same as with the proposed Project. The aesthetic impacts from these housing projects would be less than significant with incorporation of applicable LRDP Final EIR PPs and MMs to address the visual character of the campus, and adherence to the UCLA Physical Design Framework.

As with the proposed housing project at the Warren Hall site, Alternative 2, which would retain the existing Warren Hall building and would largely maintain the existing visual setting at this site, would not have a substantial adverse effect on a scenic vista and would not substantially damage scenic resources within a State scenic highway.

With retention of the existing Warren Hall building, visual changes resulting from implementation of the proposed housing project at this site would be avoided, including the removal of existing trees. Conceptual renderings were prepared for the proposed housing project at the Warren Hall site and are presented in Section 4.1, Aesthetics, of this Draft SEIR. Although there would be a notable change in the visual character at this site, with incorporation of applicable LRDP Final EIR PPs and MMs and with adherence to the UCLA Physical Design Framework, the proposed development would not degrade the existing visual character or quality of the site and its surroundings. The change in visual character was determined to be a less than significant impact.

As with the proposed housing projects, exterior lighting, if not currently sufficient, would be installed for safety and security purposes. As required by LRDP Final EIR MMs, outdoor lighting would be directed to the specific location intended for illumination to limit stray light spillover onto adjacent residential areas, and lighting would be shielded. With respect to glare, the exterior finishes of the Warren Hall building would be retained and there would be no change in the amount of glare, if any, generated. Alternative 2 and the proposed housing project would have less than significant light and glare impacts. Further, Alternative 2 would not involve higher buildings that have the potential to cause shade on adjacent uses; however, the proposed Project's impact related to shade would be less than significant.

Air Quality

Alternative 2 would involve the same construction activities (including demolition, grading, and excavation) and operations as the proposed Project at the Lot 15, UNEX, Bradley, and Drake Stadium sites.

While the five proposed housing projects collectively would not exceed SCAQMD thresholds and would result in less than significant construction-related and operational air quality impacts, the reduction in construction activities and amount of new development associated with Alternative 2 would have reduced construction-related and air quality impacts compared to the proposed housing projects. Under Alternative 2, emissions from demolition of the existing building and associated haul truck trips would be reduced (there would still be some demolition of interior spaces for abatement and renovation activities). Additionally, the emissions from operation of 200 units with reuse of the existing buildings (109,406 gsf) would be substantially less compared to operation of a new 650,000 gsf building with 2,350 beds. The contribution of the proposed housing projects to cumulative air quality impacts (during construction and operation) would also be reduced under Alternative 2; however, the overall cumulative air quality impacts of the proposed housing projects would remain significant and unavoidable.

The interim condition that assumes combined emissions from operation of the proposed housing projects at the Lot 15, Warren Hall, and UNEX sites at the same time as construction at the Bradley and Drake Stadium sites would also occur with this alternative. Although the operational emissions from the Warren Hall site would be reduced during the interim condition due to the substantial reduction in building size and student residents, the impact would be significant prior to the implementation of MM AQ-1, the same as the proposed Project.

As with the proposed housing projects, Alternative 2 would neither conflict with nor obstruct implementation of the AQMP since the proposed housing projects and this alternative do not provide for population, housing, or employment growth that exceeds SCAG regional forecasts, which form the basis of the land use and transportation control portions of the AQMP.

Implementation of the proposed housing projects and Alternative 2 would not introduce new types of uses or change existing operations on campus; would not expose sensitive receptors to substantial pollutant concentrations or toxic air contaminants; and would not create objectionable odors resulting in a less than significant impact.

Biological Resources

The vegetation and tree removal that would occur with implementation of the proposed housing projects at the Lot 15, UNEX, Bradley, and Drake Stadium sites would occur with Alternative 2 and potential impacts would be less than significant with incorporation of LRDP Final EIR PPs and MMs. Additionally, none of the proposed housing sites, including the Warren Hall site, support

sensitive habitat or species, or jurisdictional areas; therefore, Alternative 2 and the proposed Project would not impact sensitive biological resources.

With implementation the proposed housing project at the Warren Hall site, 28 existing trees and ornamental vegetation would be removed. There would be limited vegetation or tree removal under Alternative 2. As with the proposed Project, development under this alternative would be required to follow applicable LRDP Final EIR PPs and MMs related to the removal of mature trees and the potential disturbance of occupied nests. Although the impacts to biological resources would be reduced, Alternative 2 and the proposed Project would result in less than significant impacts to biological resources.

Alternative 2 and the proposed Project would not impact wildlife movement and would not conflict with an adopted Habitat Conservation Plan or Natural Community Conservation Plan.

Cultural and Tribal Cultural Resources

As discussed in Section 4.4, Cultural and Tribal Cultural Resources, of this Draft SEIR, the proposed housing project at the Warren Hall site would involve demolition of the existing Warren Hall building, which is an eligible historic resource pursuant to CEQA, resulting in a significant and unavoidable impact, even with implementation of the identified MMs. As described above, Alternative 2 would retain the Warren Hill building, and interior renovations would be made to accommodate up to approximately 200 beds for graduate students. Implementation of Alternative 2 would not involve demolition of Warren Hall and would avoid the significant and unavoidable impact to a historic resource resulting from the proposed Project.

With the exception of the Drake Stadium site, implementation of the proposed housing projects involve excavation in previously undisturbed areas. Under Alternative 2 there would be no excavation into native sediments at the Warren Hall site; therefore, there would no potential to disturb previously unidentified archaeological and paleontological resources, tribal cultural resources, or human remains at the Drake Stadium or Warren Hall sites. Although there is low potential, excavation activities at the remaining sites (Lot 15, UNEX, and Bradley) would still have the potential to disturb previously unidentified resources. Therefore, with incorporation of applicable LRDP Final EIR PPs and MMs related to the protection of these resources, potential impacts would be less than significant for the proposed Project and Alternative 2.

Geology and Soils

As discussed in Section 4.5, Geology and Soils, of this Draft SEIR, geologic and seismic considerations (such as the potential for ground shaking, liquefaction, landslides, lateral spreading, subsidence, compressible soils and settlement, and unsuitable soils) have been evaluated and determined to be manageable relative to the proposed housing projects with adherence to applicable requirements as outlined in the LRDP Final EIR PPs and MMs.

Given that the proposed development at the Lot 15, UNEX, Bradley, and Drake Stadium sites would be the same under Alternative 2 and the proposed Project, and no new development would occur at the Warren Hall site, Alternative 2 would have impacts related to geology and seismicity similar to those associated with the proposed Project. As with the proposed Project, these impacts would be less than significant with implementation of the identified LRDP Final EIR PPs and MMs, including adherence to recommendations made in project-specific geotechnical reports.

Development on campus under Alternative 2 and the proposed Project would connect to the municipal sewer system; therefore, no impacts related to soils incapable of supporting septic tanks or alternative wastewater disposal systems would result.

Greenhouse Gas Emissions

As identified in Section 4.6, Greenhouse Gas Emissions, of this Draft SEIR, the estimated annual operational GHG emissions for the proposed housing projects, including amortized construction emissions, would exceed the SCAQMD-recommended 3,500 $MTCO_2e$/year screening threshold; however, the proposed Project GHG efficiency of 0.80 $MTCO_2e$/year per SP in 2025 would be substantially less than the efficiency target of 4.2 $MTCO_2e$/year per SP and would also be substantially less than the 2035 target of 3.0 $MTCO_2e$/year per SP. GHG emissions would not either directly or indirectly have a significant impact on the environment with implementation of the proposed housing projects.

With implementation of Alternative 2, GHG emissions from construction, electricity, natural gas, water use, and solid waste disposal relative to the proposed housing development at the Warren Hall site would be reduced compared to the proposed Project. GHG emissions from increased vehicle trips would be increased compared to the proposed Project. The total Alternative 2 GHG emissions are calculated at 4,597 $MTCO_2e$/year, which is less than the proposed Project's 5,781 $MTCO_2e$/year, but still exceeds the SCAQMD screening threshold. Although Alternative 2 would have less GHG emissions than the proposed Project, the GHG efficiency would be 0.94, less efficient than the proposed Project, because of the reduced service population.

As with construction and operation of the proposed housing projects, under Alternative 2 the campus would continue to implement the UC Policy on Sustainable Practices, and UC and UCLA regulatory programs/requirements in place at the time of development, as well as applicable federal, State, and regional plans, policies, and regulations. As with the proposed Project, Alternative 2 would not conflict with plans and policies adopted for the purposes of reducing GHGs, resulting in a less than significant impact.

Hazards and Hazardous Materials

As addressed in Section 4.7, Hazards and Hazardous Materials, of this Draft SEIR, with incorporation of the identified LRDP Final EIR PPs, and project-specific mitigation measures (for the potential impacts at the Lot 15 site), the proposed housing projects would not result in significant hazards or hazardous materials impacts related to the routine transport, use, disposal, and storage of hazardous materials; exposure of construction workers to hazardous materials during construction; release of hazardous materials into the environment; exposure to contaminated soils or groundwater (which is not known to exist on campus); handling of hazardous materials within 0.25 mile of a school; development on identified hazardous sites; exposure of people to safety hazards from RRUCLAMC helicopter activities; or interference with an emergency response or evacuation plan.

Under Alternative 2, the proposed housing projects at the Lot 15, UNEX, Bradley, and Drake Stadium sites would be the same and would have the same potential impacts as with the proposed Project. Although the Warren Hall building would be retained under Alternative 2, the decommissioning activities and abatement measures required for demolition of the building would also be required for the adaptive reuse of the building to ensure it is suitable for residential use. Therefore, the impacts under Alternative 2 would be similar to the proposed Project.

Additionally, there are no areas on campus subject to wildland fire hazards; no impact would result with Alternative 2 or the proposed housing projects.

Hydrology and Water Quality

As addressed in Section 4.7, Hydrology and Water Quality, with implementation of the identified LRDP Final EIR PPs and MMs, the proposed housing projects would not result in significant hydrology and water quality impacts. Implementation of the proposed housing projects, which would collectively result in an increase in impervious surfaces, would increase the amount of runoff and associated urban pollutants on campus.

Under Alternative 2, the change in amount of pervious/impervious surface at the Lot 15, UNEX, Bradley, and Drake Stadium sites would be the same as with the proposed Project. With respect to the Warren Hall site, as discussion in Section 4.7, implementation of the proposed housing development at the Warren Hall site would not notably change the amount of pervious or impervious surface at the site, compared to the existing condition. Therefore, Alternative 2, which retains the existing building, would also have similar runoff and water quality concerns as the proposed Project.

Runoff from development under Alternative 2 and the proposed Project is likely to include pollutants consistent with the existing developed campus areas. With incorporation of LRDP Final EIR PPs and MMs, which address compliance with applicable water quality regulations and implementation of BMPs, hydrology and water quality impacts from Alternative 2 would be reduced to a level considered less than significant, similar to the proposed housing projects.

As with the proposed housing projects, Alternative 2 would not substantially deplete groundwater supplies or interfere with groundwater recharge. Additionally, as with the proposed housing projects, Alternative 2 would not result in runoff that exceeds the capacity of existing storm drain systems or provide substantial additional sources of polluted runoff. Alternative 2 would have similar impacts to the proposed housing projects for these issues.

Additionally, Alternative 2 and the proposed Project would not place housing or structures in a 100-year floodplain or expose people or structures to flooding, and would not cause inundation (by seiche, tsunami or mudflow), as the campus is not subject to these conditions.

Land Use and Planning

Under Alternative 2, the existing buildings at the Warren Hall site (109,405 gsf) would be retained, and the proposed housing projects at the Lot 15, UNEX, Bradley, and Drake Stadium sites would be developed consistent with the proposed Project. Therefore, with implementation of this alternative, the total amount of new development on campus would be 1,065,000 gsf. The existing UNEX building and buildings at the Lot 15 site (totaling 105,500 gsf) would be demolished; therefore, there would be a net increase of 959,500 gsf on campus. The proposed LRDP Amendment under this alternative would reflect this, and the amendment would be to allocate 959,500 gsf of new development to the Existing LRDP (compared to 1,500,000 gsf with the proposed Project).

As with the proposed Project, proposed housing projects under Alternative 2 would be implemented in accordance with the development objectives in the Existing LRDP, applicable LRDP Final EIR PPs and MMs, and the 2009 UCLA Physical Design Framework, which were established to ensure compatibility between proposed projects and existing development on and off campus.

As with the proposed Project, the proposed student housing development under Alternative 2 would be considered regionally significant. Although there would be less student housing on campus, Alternative 2 would not conflict with the identified regional goals and policies outlined in

the SCAG 2016–2040 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS).

With the proposed Project, the Warren Hall site would accommodate up to 2,350 beds (including 488 graduate student beds); this represents 34 percent of the proposed 6,900 beds. Limiting this site to 200 graduate student beds with adaptive reuse of the Warren Hall building would result in the development of only 4,550 new undergraduate beds on campus. The UCLA SHMP indicates that the addition of 4,500 undergraduate would only maintain a three-year guarantee for freshman students; the SHMP goal is a four-year guarantee. Therefore, Alternative 2 would conflict with the goals outlined in the SHMP regarding housing guarantees for freshman (undergraduate) students, resulting in a potential land use impact that would not occur with the proposed Project.

Development in the Northwest zone with the proposed Project would occur at the Lot 15 and Bradley sites; there would be no changes to the proposed development at these sites with implementation of Alternative 2. Therefore, consistent with the proposed Project, Alternative 2 would not conflict with the provisions of the Stipulated Agreement of Compromise and Order with the Westwood Hills Property Owners' Association and Urban Wildlands Group Hillside Use Agreement, which address development in the Northwest zone.

Alternative 2 and the proposed housing projects would not divide an established community and would not be subject to the provisions of any adopted Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, no impacts would result.

Noise

Noise and vibration impacts resulting from implementation of the proposed Project are discussed in Section 4.10, Noise and Vibration, of this Draft SEIR. Under Alternative 2, construction activities at the Lot 15, UNEX, Bradley, and Drake Stadium sites would be the same as the proposed Project. Construction activities under Alternative 2 at these proposed housing sites and along Veteran Avenue and Gayley Avenue (for sewer line upgrades), would be conducted in accordance with the PPs and MMs in the LRDP Final EIR. Even though construction-related noise impacts would be reduced to the extent feasible, adjacent sensitive noise receptors at the Lot 15, UNEX, Bradley, and Drake Stadium sites would be exposed to noise levels that exceed the established criteria and would be significant and unavoidable, consistent with the proposed Project.

With the adaptive reuse of the Warren Hall site (instead of demolition and new construction), the amount of construction at this site would be reduced and would largely be internal to the building, or associated with the sewer line upgrades in Veteran Avenue or Gayley Avenue. There would be no noise from demolition or grading activities at the building site. Some concrete and asphalt demolition would be required for the bus stop/turnout improvements and sewer line grades; however, this would not be expected to occur over more than one day at any sensitive receptor, and a significant impact would not result. Therefore, Alternative 2 would avoid construction-related noise impacts at the Warren Hall site.

With respect to cumulative construction-related noise impacts, the significant and unavoidable impact resulting from the proposed housing projects is specifically related to the concurrent construction activities at the Warren Hall, UNEX, and Margan Apartments sites. While the construction-related noise levels at the Warren Hall site would be reduced, there would still be significant construction noise generated at the UNEX and Margan Apartments sites. Therefore, the significant and unavoidable temporary construction-related noise impact, although reduced, would still occur with Alternative 2 during the period of time when the project are under construction at the same time.

With the exception of the Warren Hall site, construction activities at the proposed housing sites would be the same as the proposed Project and would expose adjacent uses to vibration. Construction activities would be conducted in accordance with the PPs and MMs in the LRDP Final EIR, including the requirement to use small equipment, as feasible, to reduce vibration impacts to a less than significant levels. Because use of small equipment during construction is feasible at each of the proposed housing sites, vibration impacts during construction would be less the significant with Alternative 2 and the proposed Project.

As discussed in Section 4.13, Transportation/Traffic, of this Draft SEIR, the proposed housing projects would slightly reduce average daily traffic on campus. Implementation of Alternative 2, which reduces the amount of new beds on campus (a reduction of 2,150 beds compared to the proposed Project), would increase the daily traffic by approximately 220 trips (including delivery and service trips). This number of trips distributed across the local street network would not cause a perceptible traffic-related noise increase. Therefore, consistent with the proposed Project, Alternative 2 would not cause significant traffic-related noise impacts during operation.

Noise generated from on-campus housing with implementation of Alternative 2 and the proposed Project would be similar to existing housing areas on campus, and would be less than significant.

Alternative 2 and the proposed housing project would not have a significant noise impact related to exceedance of established noise standards. Additionally, as with the proposed Project, development at the proposed housing sites, including the Warren Hall site, would not expose people to excessive noise levels from helicopter operations at the RRUCLAMC.

Population and Housing

As identified in Section 4.11, Population and Housing of this Draft SEIR, the proposed Project, which would not increase the total student enrollment, would not increase the on-campus average weekday student population. However, there would be an increase in the number of staff positions on campus (145 new staff positions). These staff positions represent a negligible increase in new jobs when compared to the total existing and projected jobs in the County or even the City of Los Angeles, and would likely be filled by the local labor pool.

Implementation of the Alternative 2, with up to 4,750 beds (only 200 beds at the Warren Hall site), also would not increase the on-campus average weekday student population. Additionally, Alternative 2 would generate less staff positions compared to the proposed Project (approximately 138 new staff positions compared to 145). As with the proposed Project, this increase in staff positions would not exceed population and employment projects for the region. Therefore, population and housing impacts would be less than significant with both Alternative 2 and the proposed Project.

Additionally, as with the proposed Project, Alternative 2 would not displace uses that would require the construction of housing elsewhere.

Public Services and Recreation

As discussed in Section 4.12, Public Services and Recreation, of this Draft SEIR, implementation of the proposed housing projects and associated increase in staff and the student resident population on campus would increase the demand for public services (fire, police, parks/recreation, and library), but not to an extent that new or expanded facilities would be needed. Under Alternative 2, there would be less on-campus housing provided and there would be a decrease in the student resident population. Therefore, the increase in demand for public

services and recreational facilities would be less and there would not be a need for new or expanded facilities, similar to the proposed Project.

As with the proposed Project, Alternative 2 would not include uses that would generate new student population at public schools. No new or expanded school facilities would be needed.

Transportation/Traffic

As identified in Section 4.13, Transportation/Traffic, of this Draft SEIR, the proposed Project, which would involve the development of up to 6,900 undergraduate and graduate beds on campus, would generate 24 fewer AM peak hour trips compared to existing conditions and would generate 12 additional PM peak hour trips. The increase in PM peak hour trips would not cause a significant traffic impact at study area intersections or CMP facilities.

Implementation of Alternative 2 would substantially reduce the amount of on campus student housing provided compared to the proposed Project. As shown in Table 5-1, implementation of Alternative 2, would generate 176 daily trips due to the reduced number of on-campus residents (compared to an overall decrease of 77 average daily trips with the proposed project). When also taking into consideration daily trips for deliveries and service vehicles, there would be an increase of approximately 220 trips (compared to 27 trips with the proposed Project). With respect to peak hour trips, as shown in Table 5-1, this alternative would generate approximately 3 AM peak hour trips and 32 PM peak hour trips (compared to a reduction of approximately 24 trips in the AM peak hour and an increase of 12 PM peak hour trips with the proposed Project). Although the total amount of traffic generated would be increased, the impact at study area intersections is expected to be less than significant, consistent with the proposed Project.

TABLE 5-1
WEEKDAY TRIP GENERATION RATES AND SUMMARY
WARREN HALL BUILDING ADAPTIVE REUSE ALTERNATIVE

Land Use	ITE Code	Intensity[2]		Average Weekday	AM Peak Hour[3] In	AM Peak Hour[3] Out	AM Peak Hour[3] Total	PM Peak Hour[3] In	PM Peak Hour[3] Out	PM Peak Hour[3] Total
Trip Generation Rates[1]										
Resident Students - Undergraduate	--	1	pe	0.147	78%	22%	0.002	32%	68%	0.012
Resident Students - Graduate	--	1	pe	0.959	78%	22%	0.091	32%	68%	0.101
Commuter Students	--	1	pe	0.746	78%	22%	0.061	32%	68%	0.071
Trip Generation Summary										
Description		**Size**		**Average Weekday**	**AM Peak Hour In**	**AM Peak Hour Out**	**AM Peak Hour Total**	**PM Peak Hour In**	**PM Peak Hour Out**	**PM Peak Hour Total**
Faculty & Staff (Work Schedule)										
Maintenance Staff (typical)		19	emp	38	19	0	19	0	19	19
Maintenance Staff (atypical [2:00 PM to 11:00 PM])[4]		1	emp	2	0	0	0	0	0	0
Grounds Staff (typical)		4	emp	8	4	0	4	0	4	4
Custodial Staff (typical)		4	emp	8	4	0	4	0	4	4
Custodial Staff (atypical [7:00 AM to 3:30 PM])[5]		35	emp	70	0	0	0	0	0	0
Custodial Staff (atypical [11:00 AM to 7:30 PM])[6]		7	emp	14	0	0	0	0	0	0
Custodial Staff (atypical [2:00 PM to 10:00 PM])[7]		8	emp	16	0	0	0	0	0	0
Administrative Staff (typical)		4	emp	8	4	0	4	0	4	4
Residential Life Staff (typical)		9	emp	18	9	0	9	0	9	9
Dining Staff (atypical [start between 6:30 AM and 7:00 AM])[8]		13	emp	26	0	0	0	0	0	0
Dining Staff (typical [start between 7:30 AM and 9:00 AM])[9]		5	emp	10	5	0	5	0	5	5
Dining Staff (atypical [start between 11:00 AM and 4:00 PM])[10]		22	emp	44	0	0	0	0	0	0
Dining Staff (atypical [start at 6:00 PM])[11]		7	emp	14	0	0	0	7	0	7
Faculty & Staff Subtotal				276	45	0	45	7	45	52
25% Public Transit/Walk/Bicycle Adjustment[12]				(69)	(11)	0	(11)	(2)	(11)	(13)
Faculty & Staff Total				**207**	**34**	**0**	**34**	**5**	**34**	**39**
Students										
Resident Students - Undergraduate (New Students)		1,550	pe	228	2	1	3	6	13	19
Resident Students - Undergraduate (Already On Campus)[13]		1,500	pe	0	0	0	0	0	0	0
Resident Students - Undergraduate (Students Coming Back)		900	pe	132	2	0	2	4	7	11
Resident Students - Undergraduate (Transfer Students)		600	pe	88	1	0	1	2	5	7

TABLE 5-1
WEEKDAY TRIP GENERATION RATES AND SUMMARY
WARREN HALL BUILDING ADAPTIVE REUSE ALTERNATIVE

Resident Students - Graduate	200	pe	192	14	4	18	6	14	20
Commuter Students (Students Coming Back)	-900	pe	-671	-43	-12	-55	-20	-44	-64
Students Total			**-31**	**-24**	**-7**	**-31**	**-2**	**-5**	**-7**
Net Project Trips			**176**	**10**	**-7**	**3**	**3**	**29**	**32**

Notes:

1) UCLA permit group per-person trip generation rates assumed from the 2008 UCLA NHIP and LRDP Amendment Traffic Impact Analysis (Iteris, October 2008) for all student populations.
2) pe = Person; emp = Employee.
3) Directional distributions (inbound and outbound) assumed to be the same as those for the University/College land use code (LUC 550) from the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition, 2012), with the independent variable of number of students.
4) With an atypical work schedule starting at 2:00 PM and ending at 11:00 PM, inbound and outbound trips are not anticipated to be completed during the AM and PM peak hours, which fall in the 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM windows.
5) With an atypical work schedule starting at 7:00 AM and ending at 3:30 PM, inbound trips are anticipated to occur before the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur before the PM peak period (4:00 PM to 6:00 PM).
6) With an atypical work schedule starting at 11:00 AM and ending at 7:30 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).
7) With an atypical work schedule starting at 2:00 AM and ending at 10:00 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).
8) With an atypical work schedule starting between 6:30 AM and 7:00 AM, inbound trips are anticipated to occur before the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur before the PM peak period (4:00 PM to 6:00 PM).
9) With a typical work schedule starting between 7:30 AM and 9:00 AM, inbound trips are anticipated to occur during the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur during the PM peak period (4:00 PM to 6:00 PM).
10) With an atypical work schedule starting between 11:00 AM and 4:00 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).
11) With an atypical work schedule starting at 6:00 PM, inbound trips are anticipated to occur during the PM peak period (4:00 PM to 6:00 PM) and outbound trips are expected to occur outside the peak periods.
12) According to the South Coast Air Quality Management District's 2016 survey of UCLA employee travel behavior, over 25 percent of employees utilize commute modes that do not require the use of a passenger vehicle (16.9 percent public transit, 6.9 percent walk, and 1.9 percent bicycle). The assumed travel mode split adjustment of 25 percent conservatively ignores the passenger vehicle trip-reducing effects of the 12.0 percent and 4.3 percent of UCLA employees who carpool and vanpool, respectively, to and from the campus.
13) As these students currently live on campus and would be "de-tripled" from more crowded housing, their resident student trips are already included in the baseline condition and would have zero trip generation as part of the Proposed Project.

With respect to construction-related traffic, with the reduction in construction activities at the Warren Hall site, Alternative 2 would generate less construction traffic, including heavy truck trips, compared to the proposed Project. However, with adherence to the LRDP Final EIR PPs and MMs and project-specific MM TRF-1related to construction activities, the impacts from the proposed housing projects would be less than significant for Alternative 2 and the proposed Project. The proposed Project would contribute to potentially significant cumulative construction-related traffic impacts resulting in a potentially significant and unavoidable impact. Although the truck traffic from the Warren Hall site would be reduced, there would still be truck trips to haul interior demolition materials, and the cumulative impact would remain significant and unavoidable, consistent with the proposed Project.

Under Alternative 2, as required by the LRDP Final EIR PP, the campus TDM program would continue; therefore Alternative 2 would not conflict with adopted plans, policies, or programs supporting alternative transportation, and impacts would be less than significant, similar to the proposed Project. Alternative 2 and the proposed Project would accommodate pedestrian and bicycle modes of travel and emergency access during construction and operation; it would also include improvements to the bus stop south of the Warren Hall site, resulting in less than significant traffic impacts.

Utilities and Service Systems

As identified in Section 4.14, Utilities and Service Systems, of this Draft SEIR, the proposed housing projects would result in an increased demand for utilities and service systems (water, wastewater, natural gas, electric, and solid waste). With the exception of upgraded sewer lines in Veteran Avenue and Gayley Avenue, the proposed housing projects would not require the construction of new or expanded facilities beyond that needed to connect proposed uses to existing infrastructure facilities. The physical impacts associated with installation of utility infrastructure and upgraded sewer lines would be less than significant.

The implementation of Alternative 2 would also increase the demand for utilities and service systems, but not to the same extent as the proposed Project given the substantial reduction in development at the Warren Hall site (no new square footage and reduction in beds). However, the change of use to residential under Alternative 2 would increase the amount of wastewater generated as compared to the wastewater generated by the existing research uses at the Warren Hall site (approximately 8,500 gpd of wastewater under Alternative 2 compared to 818 gpd under existing conditions). Therefore, upgrades to sewer lines in Veteran Avenue (for the Warren Hall site) and Gayley Avenue (for the Warren Hall, Bradley, and Drake Stadium sites) would be needed under Alternative 2, similar to the proposed Project. As with the proposed Project, the physical impacts associated with installation of utility infrastructure and upgraded sewer lines would be less than significant.

With respect to solid waste, Alternative 2 would also generate less solid waste compared to the proposed Project; however, consistent with UC Policies, solid waste generated during construction and operation would be diverted from the local landfills. Therefore, solid waste impacts with Alternative 2 and the proposed Project would be similar and would be less than significant.

Ability to Meet the Project Objectives

Alternative 2, Adaptive Reuse of the Warren Hall Building, would reduce the number of proposed beds from 6,900 to 4,750. Of the 4,750 beds, only 200 would be for graduate students, compared to 488 graduate student beds with the proposed Project.

Alternative 2 would meet the following project objectives, which (1) address the provision of on-campus housing or specifically dormitory housing, which would still be provided under Alternative 2 or (2) are not related to the provision of housing.

1. Provide new, on-campus, undergraduate and graduate student housing that improves the quality of student life, supports the academic experience, and fosters their personal and social development.
3. Continue the development of University-owned housing to ensure that student housing remains affordable, while providing different housing options to meet the needs of a diverse group of UCLA students.
4. Continue the transformation of the UCLA campus from a commuter to a residential campus, which reduces vehicle miles traveled and energy consumption.
7. Provide additional on-campus, dormitory-style housing for first- and second-year undergraduates.
10. Site and develop new student housing proximate to existing University housing to bridge efficiencies in the availability of dining services, recreational facilities, and resident student programming.
11. Plan, design, and implement the proposed Project in a manner consistent with the UC Policy on Sustainable Practices.

The following objectives would generally be met, but not to the same extent as the proposed Project due the substantial reduction in beds at the Warren Hall site.

5. Provide University-owned housing that is competitive in the surrounding Westwood residential housing market, offering units below current rental market rates for similar style units.

   While the proposed development at the Lot 15, UNEX, Bradley and Drake sites would continue to meet this objective, the proposed adaptive reuse at the Warren Hall site would not. Under Alternative 2, the Warren Hall building would accommodate up to 200 graduate student beds; a reduction of 2,150 beds from the proposed Project. The added cost of relocating existing uses in Warren Hall, abatement, and renovation of the building for residential use, plus the loss of revenue from the 2,150 eliminated beds, would be absorbed by all of the housing sites and would reduce the University's ability to offer below rental market rates for the housing.

6. Provide additional on-campus student housing that includes apartment-style housing, which is considered essential for the recruitment of outstanding graduate and transfer students and for the retention of upper division undergraduates.

   With the proposed Project, the Warren Hall site would accommodate up to 2,350 beds for undergraduate and graduate students that would be provided in various apartment-style configurations. With the provision of only 200 beds in apartment units for graduate students at the Warren Hall site and 1,350 beds in apartment units for undergraduate students at the UNEX site (1,550 beds under Alternative 2), this objective would not nearly meet this objective to the same extent as the proposed Project.

8. Provide on-campus student housing that maximizes the use of limited land resources through dense development of on-campus sites, consistent with a mature urban University.

This objective would be met at the Lot 15, UNEX, Bradley, and Drake Stadium sites. However, retaining and adaptively reusing the 102,205-gsf Warren Hall building on the 3.9-acre site would not maximize the use of limited land resources on campus, as demonstrated by the limited number of beds that could be accommodated. Therefore, Alternative 2 would not meet this objective to the same extent as the proposed Project, which includes development of a 650,000-gsf building at this site.

9. Provide new on-campus graduate housing in the Southwest zone of campus that is designed to continue to build a graduate-level community proximate to academic, recreation, and social resources.

   While Alternative 2 would provide 200 graduate student beds at the Warren Hall site in the Southwest zone, this represents a decrease of approximately60 percent of the graduate beds that would be provided with the proposed Project (488 graduate beds). Therefore, Alternative 2 would not meet this objective to the same extent as the proposed Project.

With the accommodation of up to only 4,750 beds, Alternative 2 would not meet the following objective:

2. Provide up to 6,900 undergraduate and graduate student beds in on-campus housing to address current and anticipated demand consistent with the Student Housing Master Plan goals.

   By providing only 200 graduate beds, Alternative 2 would eliminate 288 graduate beds and 1,862 undergraduate beds, resulting in the development of up to 4,750 total beds on the five proposed sites. This would not address the goals for on-campus housing guarantees as stated in the Student Housing Master Plan.

5.4.3 ALTERNATIVE 3: REDUCED DEVELOPMENT AREA/REDUCED BEDS

Description of the Alternative

The purpose of the Reduced Development Area/Reduced Beds Alternative is primarily to address construction-related impacts resulting from implementation from the proposed housing projects. As described in Section 3.5.6, Construction Activities, of this Draft SEIR, approximately 41,000 cubic yards (cy) of soil would be exported from the Bradley site, resulting in 63 maximum daily round truck trips for the approximate 3-month grading period. This construction would occur at the same time that the student housing at the Lot 15, Warren Hall, and UNEX sites is operational, resulting in a significant interim air quality impacts from NOx emissions during grading (mitigated to a less than significant level).

Under this alternative, the Bradley site would not be developed with student housing and dining services and would remain in its current condition. There would be an overall reduction of 600 beds and 122,000 gsf of new development under this alternative. Additionally, with the elimination of the Bradley site, and the elimination of its associated 63 staff positions, the total staff positions generated would be reduced from 145 to 82. The reduction in development and employment generation (and associated staff trip generation) would reduce operational air quality emissions, and the proposed Project's contribution to cumulative operational air quality impacts.

Each of the remaining proposed housing projects at the Lot 15, Warren Hall, UNEX, and Drake Stadium sites would be developed consistent with the proposed Project. Therefore, with implementation of this alternative, the total amount of new development on campus would be 1,593,000 gsf. The existing Warren Hall, UNEX building, and buildings at the Lot 15 site (totaling

215,000 gsf) would be demolished; therefore, there would be a net increase of 1,378,000 gsf on campus. The proposed LRDP Amendment under this alternative would reflect this, and the amendment would be to allocate 1,378,000 gsf of new development to the Existing LRDP.

Comparative Analysis of Environmental Impacts

Aesthetics

Under Alternative 3, the visual changes resulting from development at the Lot 15, Warren, UNEX, and Drake Stadium sites would be the same as with the proposed Project. The aesthetic impacts from these housing projects would be less than significant with incorporation of applicable LRDP Final EIR PPs and MMs to address the visual character of the campus and with adherence to the UCLA Physical Design Framework.

The Bradley site is not within the viewshed of a scenic vista and is not located within a State scenic highway, or other scenic roadway. Therefore, as with the proposed Project, no aesthetic impacts related to scenic vistas or scenic highway/roadways would occur with implementation of Alternative 3.

Alternative 3 would retain the Bradley site in its condition, an undeveloped landscaped/turf slope at the northeast corner of Gayley Avenue and Strathmore Drive, a designated campus entry. With elimination of the Bradley site from consideration for housing development, visual changes resulting from implementation of the proposed housing project at this site, including the introduction of new lighting sources, would be avoided, including the removal of existing trees. Conceptual renderings were prepared for the proposed housing project at the Bradley site and are presented in Section 4.1, Aesthetics, of this Draft SEIR. Although there would be a notable change in the visual character at this site, with incorporation of applicable LRDP Final EIR PPs and MMs and with adherence to the UCLA Physical Design Framework, the proposed development would not degrade the existing visual character or quality of the site and its surroundings, nor would it add sources of substantial light and glare. The change in visual character and potential light and glare impacts were determined to be a less than significant impact. Therefore, Alternative 3 would avoid the less than significant aesthetic impacts at the Bradley site resulting from the proposed Project.

Air Quality

Alternative 3 would involve the same construction activities (including demolition, grading, and excavation) and operations as the proposed Project at the Lot 15, Warren Hall, UNEX, and Drake Stadium sites.

While the five proposed housing projects collectively would not exceed SCAQMD thresholds and would result in less than significant construction-related and operational air quality impacts, the elimination of the Bradley site with Alternative 3 would have reduced construction-related and operational air quality impacts compared to the proposed housing projects. With respect to construction-related emissions, the Bradley site requires more earthwork and would generate more haul truck trips than any of the other proposed housing sites (41,000 cy of excavation and approximately 66 round truck trips per day); therefore, the construction-related emissions from development at this site are highest of the 5 sites. Operational emissions under Alternative 3 would also be reduced due to the elimination of 600 beds, approximately 122,000 gsf of new development, and dining services (and associated staff generated by the dining facility). Therefore, the contribution of the proposed housing projects to cumulative air quality impacts during construction and operation would also be reduced; however, the overall cumulative air quality impacts of the proposed housing projects would remain significant and unavoidable.

The interim condition that assumes combined emissions from operation of the proposed housing projects at the Lot 15, Warren Hall, and UNEX sites at the same time as construction at the Bradley and Drake Stadium sites would still occur under Alternative 3; however, the construction emissions would be reduced due to the elimination of the Bradley site. Specifically, the potential significant interim impact associated with construction and operational NOx emissions would be avoided; however, this impact is mitigated to a less than significant level with the proposed Project.

As with the proposed housing projects, Alternative 3 would neither conflict with nor obstruct implementation of the AQMP since the proposed housing projects and Alternative 3 do not provide for population, housing, or employment growth that exceeds SCAG regional forecasts, which form the basis of the land use and transportation control portions of the AQMP. It should be noted that, with the elimination of the Bradley site, including the proposed dining services, Alternative 3 (assuming development at the remaining 4 housing sites) would generate approximately 82 staff positions, compared to 145 staff positions assuming implementation of the proposed housing project at the Bradley site.

Implementation of the proposed housing projects with the proposed Project and Alternative 3 would not introduce new types of uses or change existing operations on campus; would not expose sensitive receptors to substantial pollutant concentrations or toxic air contaminants; and would not create objectionable odors resulting in a less than significant impact.

Biological Resources

The vegetation and tree removal that would occur with implementation of the proposed housing projects at the Lot 15, Warren Hall, UNEX, and Drake Stadium sites would occur with Alternative 3, and potential impacts would be less than significant with incorporation of LRDP Final EIR PPs and MMs. Additionally, none of the proposed housing sites, including the Bradley site, support sensitive habitat or species or jurisdictional areas; therefore, neither Alternative 3 nor the proposed Project would impact sensitive biological resources.

With implementation the proposed housing project at the Bradley site, 26 existing trees and ornamental vegetation would be removed; this would not occur with implementation of Alternative 3, which would retain the existing condition. Although the amount of vegetation removal would be reduced with Alternative 3, Alternative 3 and the proposed Project would both have less than significant impacts to biological resources because development at the remaining four housing sites would be required to follow applicable LRDP Final EIR PPs and MMs related to the removal of mature trees and the potential disturbance of occupied nests.

Alternative 3 and the proposed Project would not impact wildlife movement and would not conflict with an adopted Habitat Conservation Plan or Natural Community Conservation Plan.

Cultural and Tribal Cultural Resources

As discussed in Section 4.4, Cultural and Tribal Cultural Resources, of this Draft SEIR, the proposed housing project at the Warren Hall site would involve demolition of the existing Warren Hall building, which is an eligible historic resource pursuant to CEQA, resulting in a significant and unavoidable impact, even with implementation of the identified MMs. Under Alternative 3 the proposed housing development at the Warren Hall site would still occur. Therefore, Alternative 3 would not avoid the significant and unavoidable impact to a historic resource resulting from the proposed Project.

With the exception of the Drake Stadium site, implementation of the proposed housing projects involve excavation in previously undisturbed areas. Under Alternative 3 there would be no excavation into native sediments at the Bradley site; therefore, there would no potential to disturb previously unidentified archaeological and paleontological resources, tribal cultural resources, or human remains at the Drake Stadium or Bradley sites. Although there is low potential, excavation activities at the remaining sites (Lot 15, Warren, and UNEX) would still have the potential for disturbance of previously unidentified resources. Therefore, with incorporation of applicable LRDP Final EIR PPs and MMs related to the protection of these resources, potential impacts would be less than significant for the proposed Project and Alternative 3.

Geology and Soils

As discussed in Section 4.5, Geology and Soils, of this Draft SEIR, geologic and seismic considerations such as the potential for ground shaking, liquefaction, landslides, lateral spreading, subsidence, compressible soils and settlement, and unsuitable soils have been evaluated and determined to be manageable relative to the proposed housing projects with adherence to applicable requirements as outlined in the LRDP Final EIR PPs and MMs.

Given that the proposed development at the Lot 15, Warren Hall, UNEX, and Drake Stadium sites would be the same under Alternative 3 and the proposed Project and that no development would occur at the Bradley site, Alternative 3 would have impacts related to geology and seismicity similar to those associated with the proposed Project. As with the proposed Project, these impacts would be less than significant with implementation of the identified LRDP Final EIR PPs and MMs, including adherence to recommendations made in Project-specific geotechnical reports.

Development on campus under Alternative 3 and the proposed Project would connect to the municipal sewer system; therefore, no impacts related to soils incapable of supporting septic tanks or alternative wastewater disposal systems would result.

Greenhouse Gas Emissions

As identified in Section 4.6, Greenhouse Gas Emissions, of this Draft SEIR, the estimated annual operational GHG emissions for the proposed housing projects, including amortized construction emissions, would exceed the established SCAQMD screening threshold; however, the proposed Project GHG efficiency of 0.80 $MTCO_2e$/year per SP in 2025 would be substantially less than the efficiency target of 4.2 $MTCO_2e$/year per SP and would also be substantially less than the 2035 target of 3.0 $MTCO_2e$/year per SP. GHG emissions would not either directly or indirectly have a significant impact on the environment with implementation of the proposed housing projects.

With implementation of Alternative 3 and the elimination of the Bradley site from the proposed housing development, there would be (1) no construction activities at the Bradley site, which includes the most earthwork and truck haul trips of all of the proposed housing sites; (2) reduction in vehicle trips due to a reduction in staff (refer to the discussion provided below under Transportation/Traffic); and (3) a reduction in overall building development (122,000 gsf). Therefore, there would be a reduction in GHG emissions compared to the proposed Project. Potential environmental impacts from GHG emissions would be less than significant with Alternative 3 and the proposed Project.

As with construction and operation of the proposed housing projects, under Alternative 3 the campus would continue to implement the UC Policy on Sustainable Practices; UC and UCLA regulatory programs/requirements in place at the time of development; as well as applicable federal, State, and regional plans, policies, and regulations. As with the proposed Project,

Alternative 3 would not conflict with plans and policies adopted for the purposes of reducing GHGs, resulting in a less than significant impact.

Hazards and Hazardous Materials

As addressed in Section 4.7, Hazards and Hazardous Materials, of this Draft SEIR, with incorporation of the identified LRDP Final EIR PPs, and Project-specific mitigation measures (for the potential impacts at the Lot 15 site), the proposed housing projects would not result in significant hazards or hazardous materials impacts related to the routine transport, use, disposal, or storage of hazardous materials; exposure of construction workers to hazardous materials during construction; release of hazardous materials into the environment; exposure to contaminated soils or groundwater (which are not known to exist on campus); handling of hazardous materials within 0.25 mile of a school; development on identified hazardous sites; exposure of people to safety hazards from RRUCLAMC helicopter activities; or interference with an emergency response or evacuation plan.

Under Alternative 3, the proposed housing projects at the Lot 15, Warren Hall, UNEX, and Drake Stadium sites would be the same and would have the same potential impacts as with the proposed Project. The Bradley site would not be developed; however, there are no site-specific hazards or hazardous materials impacts associated with the development of this site. Therefore, the impacts under Alternative 3 would be similar to the proposed Project.

Additionally, there are no areas on campus subject to wildland fire hazards; no impact would result with Alternative 3 or the proposed housing projects.

Hydrology and Water Quality

As addressed in Section 4.7, Hydrology and Water Quality, with implementation of the identified LRDP Final EIR PPs and MMs, the proposed housing projects would not result in significant hydrology or water quality impacts. Implementation of the proposed housing projects, which would collectively result in an increase in impervious surfaces, would increase the amount of runoff and associated urban pollutants on campus.

Under Alternative 3, the change in the amount of pervious/impervious surface at the Lot 15, Warren Hall, UNEX, and Drake Stadium sites would be the same as with the proposed Project. With respect to the Bradley site, as discussed in Section 4.7, implementation of the proposed housing development at the Bradley site would increase the amount of impervious surface by approximately 29,860 square feet (sf) compared to existing conditions. Therefore, Alternative 3, which retains the existing condition at the Bradley site, would not increase the amount of storm water runoff compared to the proposed Project. Runoff from development under Alternative 3 and the proposed Project would include pollutants consistent with the existing developed campus areas. With incorporation of LRDP Final EIR PPs and MMs, which address compliance with applicable water quality regulations, and implementation of BMPs, hydrology and water quality impacts from Alternative 3 would be reduced to a level considered less than significant, similar to the proposed Project.

As with the proposed Project, Alternative 3 would not substantially deplete groundwater supplies or interfere with groundwater recharge. Additionally, as with the proposed Project, Alternative 3 would not cause runoff that exceeds the capacity of existing storm drain systems or provide substantial additional sources of polluted runoff. Alternative 3 would have similar impacts as the proposed Project for these issues.

Additionally, Alternative 3 and the proposed Project would not place housing or structures in a 100-year floodplain or expose people or structures to flooding, and would not cause inundation (by seiche, tsunami or mudflow), as the campus is not subject to these conditions.

Land Use and Planning

Under Alternative 3, the proposed housing projects at the Lot 15, Warren Hall, UNEX, and Drake Stadium sites would be developed consistent with the proposed Project, and no development would occur at the Bradley site. Therefore, with implementation of this alternative, the total amount of new development on campus would be 1,593,000 gsf. The existing Warren Hall, UNEX building, and buildings at the Lot 15 site (totaling 215,000 gsf) would be demolished; therefore, there would be a net increase of 1,378,000 gsf on campus. The proposed LRDP Amendment under this alternative would reflect this, and the amendment would be to allocate 1,378,000 gsf of new development to the Existing LRDP (compared to 1,500,000 gsf with the proposed Project).

As with the proposed Project, the proposed housing projects under Alternative 3 would be implemented in accordance with the development objectives in the Existing LRDP, applicable LRDP Final EIR PPs and MMs, and the 2009 UCLA Physical Design Framework, which were established to ensure compatibility between proposed projects and existing development on and off campus.

As with the proposed Project, the proposed student housing development under Alternative 3 would be considered regionally significant. Although there would be less student housing on campus, Alternative 3 would not conflict with the identified regional goals and policies outlined in the SCAG 2016–2040 RTP/SCS.

With the proposed Project, the Bradley site would accommodate up to 600 undergraduate beds; this represents approximately 9 percent of the proposed 6,900 beds. Elimination the Bradley site from the proposed Project would result in the development of up to 6,300 new beds on campus (5,812 undergraduate beds and 488 graduate beds). The UCLA SHMP indicates that the addition of 4,500 undergraduate beds would only maintain a three-year guarantee for freshman students; the SHMP goal is a four-year guarantee. It is expected that the provision of up to 6,300 beds under Alternative 3 would allow UCLA to meet its housing goals, but not to the same extent as the proposed Project. Therefore, Alternative 3 would not conflict with the SHMP, resulting in less than significant land use impact consistent with the proposed Project.

With the proposed Project, development in the Northwest zone would occur at the Lot 15 and Bradley sites; there would be no changes to the proposed development at the Lot 15 site with implementation of Alternative 3. The Bradley site is not within the geographic areas addressed by the Stipulated Agreement of Compromise and Order with the Westwood Hills Property Owners' Association or the Urban Wildlands Group Hillside Use Agreement. Therefore, consistent with the proposed Project, Alternative 3 would not conflict with the provisions of these agreements.

Alternative 3 and the proposed housing projects would not divide an established community and would not be subject to the provisions of any adopted Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, no impacts would result.

Noise

Noise and vibration impacts resulting from implementation of the proposed Project are discussed in Section 4.10, Noise and Vibration, of this Draft SEIR. Under Alternative 3, the construction activities at the Lot 15, Warren Hall, UNEX, and Drake Stadium sites would be the same as the proposed Project. Construction activities under Alternative 3 at these proposed housing sites

would be conducted in accordance with the PPs and MMs in the LRDP Final EIR. Even though construction-related noise impacts would be reduced to the extent feasible, adjacent sensitive noise receptors near the Lot 15, UNEX, Warren Hall, and Drake Stadium sites would be exposed to noise levels that exceed the established criteria and would be significant and unavoidable, consistent with the proposed Project.

With the elimination of the Bradley site from the proposed housing projects, no construction noise would occur at this site. Therefore, Alternative 3 would avoid on- and off-campus significant and unavoidable construction-related noise impacts at the Bradley site.

With respect to cumulative construction-related noise impacts, the significant and unavoidable impact resulting from the proposed housing projects is specifically related to the concurrent construction activities at the Warren Hall, UNEX, and Margan Apartments sites. Therefore, Alternative 3, which eliminates the Bradley site, would not avoid this cumulative noise impact.

With the exception of the Bradley site, construction activities at the proposed housing sites would be the same as the proposed Project and would expose adjacent uses to vibration. Construction activities would be conducted in accordance with the PPs and MMs in the LRDP Final EIR, including the requirement to use small equipment, as feasible, to reduce vibration impacts to less than significant levels. Because use of small equipment during construction is feasible at each of the proposed housing sites, vibration impacts during construction would be less the significant with Alternative 3 and the proposed Project.

As discussed in Section 4.13, Transportation/Traffic, of this Draft SEIR, the proposed housing projects would slightly reduce average daily traffic on campus. With implementation of Alternative 3 and its associated reduction in staff positions at the Bradley site, there would be a larger net reduction of approximately 150 trips compared to a reduction of 27 trips with the proposed Project. The associated reduction in traffic-related noise levels would not be perceptible. Consistent with the proposed Project, Alternative 3 would not cause significant traffic-related noise impacts during operation.

Noise generated from on-campus housing with implementation of Alternative 3 and the proposed Project would be similar to existing housing areas on campus, and would be less than significant. Since the noise that would be generated from the Bradley site would be eliminated, noise from this site would not be heard from sensitive receptors at the remaining four housing sites.

Alternative 3 and the proposed Project would not have a significant noise impact related to exceedance of established noise standards. Additionally, as with the proposed Project, development at the proposed housing sites, including the Bradley site, would not expose people to excessive noise levels from helicopter operations at RRUCLAMC.

Population and Housing

As identified in Section 4.11, Population and Housing, of this Draft SEIR, the proposed Project, which would not increase the total student enrollment, would not increase the on-campus average weekday student population. However, there would be an increase in the number of staff positions on campus (145 new staff positions). These staff positions represent a negligible increase in new jobs when compared to the total existing and projected jobs in the County or even the City of Los Angeles, and would likely be filled by the local labor pool.

Implementation of Alternative 3, which eliminates the Bradley site and associated dining facilities, would not increase the on-campus average weekday student population. Additionally, Alternative 3 would generate fewer staff positions compared to the proposed Project (approximately 82 new

staff positions compared to 145). This reduction primarily comes from the reduction in dining services, which was estimated to generate 45 staff positions. As with the proposed Project, this increase in staff positions would not exceed population and employment projects for the region. Therefore, population and housing impacts would be less than significant with both Alternative 3 and the proposed Project.

Additionally, as with the proposed Project, Alternative 3 would not displace uses that would require the construction of housing elsewhere.

Public Services and Recreation

As discussed in Section 4.12, Public Services and Recreation, of this Draft SEIR, implementation of the proposed housing projects and their associated increase in staff and student resident population on campus would increase the demand for public services (fire, police, parks/recreation, and library), but not to an extent that new or expanded facilities would be needed. Under Alternative 3, there would be less on-campus housing provided (a reduction of 600 beds), and there would be a decrease in the student resident population. Therefore, the increase in demand for public services and recreational facilities would be less and there would not be a need for new or expanded facilities, similar to the proposed Project.

As with the proposed Project, Alternative 3 would not include uses that would generate new student population at public schools. No new or expanded school facilities would be needed.

Transportation/Traffic

As identified in Section 4.13, Transportation/Traffic, of this Draft SEIR, the proposed Project, which would involve the development of up to 6,900 undergraduate and graduate beds on campus, would generate 24 fewer AM peak hour trips compared to existing conditions and would generate 12 additional PM peak hour trips. The increase in PM peak hour trips would not cause a significant traffic impact at study area intersections or CMP facilities.

Implementation of Alternative 3 would reduce the amount of on campus student housing provided compared to the proposed Project (6,300 beds compared to 6,900 beds), and therefore would reduce existing vehicle trip generation by students to a lesser degree than would the proposed Project, as shown in Table 5-2. However, with the elimination of the Bradley site, there would also be a reduction in the number of staff positions generated, reducing staff-generated trips. With Alternative 3, there would be a reduction of 30 AM peak hour trips and 2 PM peak hour trips (refer to Table 5-2). Therefore, there would be a slightly greater reduction in peak hour trips compared to the proposed Project. Consistent with the proposed Project, there would be no traffic impacts at study area intersection or CMP facilities.

TABLE 5-2
WEEKDAY TRIP GENERATION RATES AND SUMMARY
REDUCED DEVELOPMENT AREA/REDUCED BEDS ALTERNATIVE

Land Use	ITE Code	Intensity[2]		Average Weekday	AM Peak Hour[3]			PM Peak Hour[3]		
					In	Out	Total	In	Out	Total
Trip Generation Rates[1]										
Resident Students - Undergraduate	--	1	pe	0.147	78%	22%	0.002	32%	68%	0.012
Resident Students - Graduate	--	1	pe	0.959	78%	22%	0.091	32%	68%	0.101
Commuter Students	--	1	pe	0.746	78%	22%	0.061	32%	68%	0.071
Trip Generation Summary										
Description		**Size**		**Average Weekday**	**AM Peak Hour**			**PM Peak Hour**		
					In	**Out**	**Total**	**In**	**Out**	**Total**
Faculty & Staff (Work Schedule)										
Maintenance Staff (typical)		18	emp	36	18	0	18	0	18	18
Maintenance Staff (atypical [2:00 PM to 11:00 PM])[4]		1	emp	2	0	0	0	0	0	0
Grounds Staff (typical)		3	emp	6	3	0	3	0	3	3
Custodial Staff (typical)		6	emp	12	6	0	6	0	6	6
Custodial Staff (atypical [7:00 AM to 3:30 PM])[5]		29	emp	58	0	0	0	0	0	0
Custodial Staff (atypical [11:00 AM to 7:30 PM])[6]		6	emp	12	0	0	0	0	0	0
Custodial Staff (atypical [2:00 PM to 10:00 PM])[7]		6	emp	12	0	0	0	0	0	0
Administrative Staff (typical)		4	emp	8	4	0	4	0	4	4
Residential Life Staff (typical)		7	emp	14	7	0	7	0	7	7
Dining Staff (atypical [start between 6:30 AM and 7:00 AM])[8]		0	emp	0	0	0	0	0	0	0
Dining Staff (typical [start between 7:30 AM and 9:00 AM])[9]		2	emp	4	2	0	2	0	2	2
Dining Staff (atypical [start between 11:00 AM and 4:00 PM])[10]		0	emp	0	0	0	0	0	0	0
Dining Staff (atypical [start at 6:00 PM])[11]		0	emp	0	0	0	0	0	0	0
Faculty & Staff Subtotal				164	40	0	40	0	40	40
25% Public Transit/Walk/Bicycle Adjustment[12]				(41)	(10)	0	(10)	0	(10)	(10)
Faculty & Staff Total				**123**	**30**	**0**	**30**	**0**	**30**	**30**
Students										
Resident Students - Undergraduate (New Students)		1,450	pe	213	2	1	3	5	12	17
Resident Students - Undergraduate (Already On Campus)[13]		1,562	pe	0	0	0	0	0	0	0
Resident Students - Undergraduate (Students Coming Back)		1,850	pe	272	3	1	4	7	15	22
Resident Students - Undergraduate (Transfer Students)		950	pe	140	2	0	2	4	7	11

TABLE 5-2
WEEKDAY TRIP GENERATION RATES AND SUMMARY
REDUCED DEVELOPMENT AREA/REDUCED BEDS ALTERNATIVE

Description	Size		Average Weekday	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Resident Students - Graduate	488	pe	468	34	10	44	16	33	49
Commuter Students (Students Coming Back)	-1,850	pe	-1,380	-88	-25	-113	-42	-89	-131
Students Total			**-287**	**-47**	**-13**	**-60**	**-10**	**-22**	**-32**
Net Project Trips			**-164**	**-17**	**-13**	**-30**	**-10**	**8**	**-2**

Notes:
1) UCLA permit group per-person trip generation rates assumed from the 2008 UCLA NHIP and LRDP Amendment Traffic Impact Analysis (Iteris, October 2008) for all student populations.
2) pe = Person; emp = Employee.
3) Directional distributions (inbound and outbound) assumed to be the same as those for the University/College land use code (LUC 550) from the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition, 2012), with the independent variable of number of students.
4) With an atypical work schedule starting at 2:00 PM and ending at 11:00 PM, inbound and outbound trips are not anticipated to be completed during the AM and PM peak hours, which fall in the 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM windows.
5) With an atypical work schedule starting at 7:00 AM and ending at 3:30 PM, inbound trips are anticipated to occur before the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur before the PM peak period (4:00 PM to 6:00 PM).
6) With an atypical work schedule starting at 11:00 AM and ending at 7:30 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).
7) With an atypical work schedule starting at 2:00 AM and ending at 10:00 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).
8) With an atypical work schedule starting between 6:30 AM and 7:00 AM, inbound trips are anticipated to occur before the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur before the PM peak period (4:00 PM to 6:00 PM).
9) With a typical work schedule starting between 7:30 AM and 9:00 AM, inbound trips are anticipated to occur during the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur during the PM peak period (4:00 PM to 6:00 PM).
10) With an atypical work schedule starting between 11:00 AM and 4:00 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).
11) With an atypical work schedule starting at 6:00 PM, inbound trips are anticipated to occur during the PM peak period (4:00 PM to 6:00 PM) and outbound trips are expected to occur outside the peak periods.
12) According to the South Coast Air Quality Management District's 2016 survey of UCLA employee travel behavior, over 25 percent of employees utilize commute modes that do not require the use of a passenger vehicle (16.9 percent public transit, 6.9 percent walk, and 1.9 percent bicycle). The assumed travel mode split adjustment of 25 percent conservatively ignores the passenger vehicle trip-reducing effects of the 12.0 percent and 4.3 percent of UCLA employees who carpool and vanpool, respectively, to and from the campus.
13) As these students currently live on campus and would be "de-tripled" from more crowded housing, their resident student trips are already included in the baseline condition and would have zero trip generation as part of the Proposed Project.

With respect to construction-related traffic, with the elimination of construction activities at the Bradley site, Alternative 3 would generate less construction traffic, including heavy truck trips, compared to the proposed Project. Notably, construction activities at the Bradley site would generate approximately 63 round truck trips per day during the 3-month site-preparation and grading period. However, with adherence to the LRDP Final EIR PPs and MMs and project-specific MM TRF-1 related to construction activities, the impacts from the proposed housing projects would be less than significant for Alternative 3 and the proposed Project.

The proposed Project would contribute to potentially significant cumulative construction-related traffic impacts resulting in a potentially significant and unavoidable impact related to intersection operations. Because truck traffic at the Bradley site would be eliminated and because construction activities at the Drake Stadium site (with 1 truck trip per day during the grading period) would not overlap, Alternative 3 would avoid cumulative construction-related traffic impacts that would occur with the proposed Project during construction of the proposed housing projects at the Bradley and Drake Stadium sites. There would still be a potentially significant and unavoidable cumulative construction-related traffic impact during construction of the Lot 15, Warren Hall, and UNEX sites.

Under Alternative 3, as required by the LRDP Final EIR PP, the campus TDM program would continue; therefore Alternative 3 would not conflict with adopted plans, policies, or programs supporting alternative transportation and impacts would be less than significant, similar to the proposed Project. Alternative 3 and the proposed Project would accommodate pedestrian and bicycle modes of travel and emergency access during construction and operation, and would include improvements to the bus stop south of the Warren Hall site, resulting in less than significant traffic impacts.

Utilities and Service Systems

As identified in Section 4.14, Utilities and Service Systems, of this Draft SEIR, the proposed housing projects would result in an increased demand for utilities and service systems (water, wastewater, natural gas, electric, and solid waste). With the exception of upgraded sewer lines in Veteran Avenue and Gayley Avenue, the proposed housing projects would not require the construction of new or expanded facilities beyond that needed to connect proposed uses to existing infrastructure facilities. The physical impacts associated with installation of utility infrastructure and upgraded sewer lines were addressed in applicable sections of the Draft SEIR, and would be less than significant.

The implementation of Alternative 3, even without the proposed development at the Bradley site, would also increase the demand for utilities and service systems, but not to the same extent as the proposed Project. The proposed developments at the Lot 15, Warren Hall, and Drake Stadium sites would require upgrades to sewer lines in Veteran Avenue and Gayley Avenue, similar to the proposed Project. As with the proposed Project, the physical impacts associated with installation of utility infrastructure and upgraded sewer lines would be less than significant.

With respect to solid waste, Alternative 3 would also generate less solid waste compared to the proposed Project; however, consistent with UC Policies, solid waste generated during construction and operation would be diverted from local landfills. Therefore, solid waste impacts with Alternative 3 and the proposed Project would be similar and would be less than significant.

Ability to Meet the Project Objectives

Alternative 3, Reduced Development Area/Reduced Beds, would eliminate the Bradley site from the proposed Project and would reduce the number of proposed beds from 6,900 to 6,300 beds (a reduction of 600 beds) and proposed dining services. Of the 6,300 beds, 5,812 would be for undergraduate students and 488 would be for graduate students.

Alternative 3 would meet the following project objectives, which (1) address the provision of on-campus housing or specifically apartment-style or graduate student housing, which would still be provided under Alternative 3 or (2) are not related to the provision of housing.

1. Provide new, on-campus, undergraduate and graduate student housing that improves the quality of student life, supports the academic experience, and fosters their personal and social development.
3. Continue the development of University-owned housing to ensure that student housing remains affordable, while providing different housing options to meet the needs of a diverse group of UCLA students.
4. Continue the transformation of the UCLA campus from a commuter to a residential campus, which reduces vehicle miles traveled and energy consumption.
6. Provide additional on-campus student housing that includes apartment-style housing, which is considered essential for the recruitment of outstanding graduate and transfer students and for the retention of upper division undergraduates.
9. Provide new on-campus graduate housing in the Southwest zone of campus that is designed to continue to build a graduate-level community proximate to academic, recreation, and social resources.
10. Site and develop new student housing proximate to existing University housing to bridge efficiencies in the availability of dining services, recreational facilities, and resident student programming.
11. Plan, design, and implement the proposed Project in a manner consistent with the UC Policy on Sustainable Practices.

The following objectives would generally be met, but not to the same extent as the proposed Project due the reduction in the total number of beds provided by Alternative 3.

2. Provide up to 6,900 undergraduate and graduate student beds in on-campus housing to address current and anticipated demand consistent with the Student Housing Master Plan goals.

   Alternative 3 would eliminate 600 beds from the Bradley site. While there would be an overall reduction in beds, it is expected that UCLA could still meet the housing goals established in the SHMP for undergraduate students (guarantee of 4 years of housing). However, this goal would not be met to the same extent as the proposed Project.

5. Provide University-owned housing that is competitive in the surrounding Westwood residential housing market, offering units below current rental market rates for similar style units.

   Under Alternative 3, the elimination of the Bradley site would reduce the number of units that the University could offer at below rental market rates for housing. Therefore, Alternative 3 would not meet this objective to the same extent as the proposed Project.

7. Provide additional on-campus, dormitory-style housing for first- and second-year undergraduates.

   The proposed Project would accommodate dormitory-style housing at the Lot 15, Bradley, and Drake Stadium sites (up to 3,200 beds). With the elimination of 600 beds at the Bradley site, approximately 19 percent of the proposed beds in dormitory-style housing would not occur. Therefore, Alternative 3 would not meet this objective to the same extent as the proposed Project.

8. Provide on-campus student housing that maximizes the use of limited land resources through dense development of on-campus sites, consistent with a mature urban University.

   This objective would be met at the Lot 15, UNEX, Warren Hall, and Drake Stadium sites. However, eliminating the undeveloped approximate 1.1-acre Bradley site would not maximize the use of limited land resources on campus, specifically in the Northwest zone where there are no other available undeveloped sites for undergraduate residential development. Therefore, Alternative 3 would not meet this objective to the same extent as the proposed Project.

5.4.4 ALTERNATIVE 4: ALTERNATIVE NORTHWEST ZONE SITE/SUNSET CANYON RECREATION CENTER

Description of the Alternative

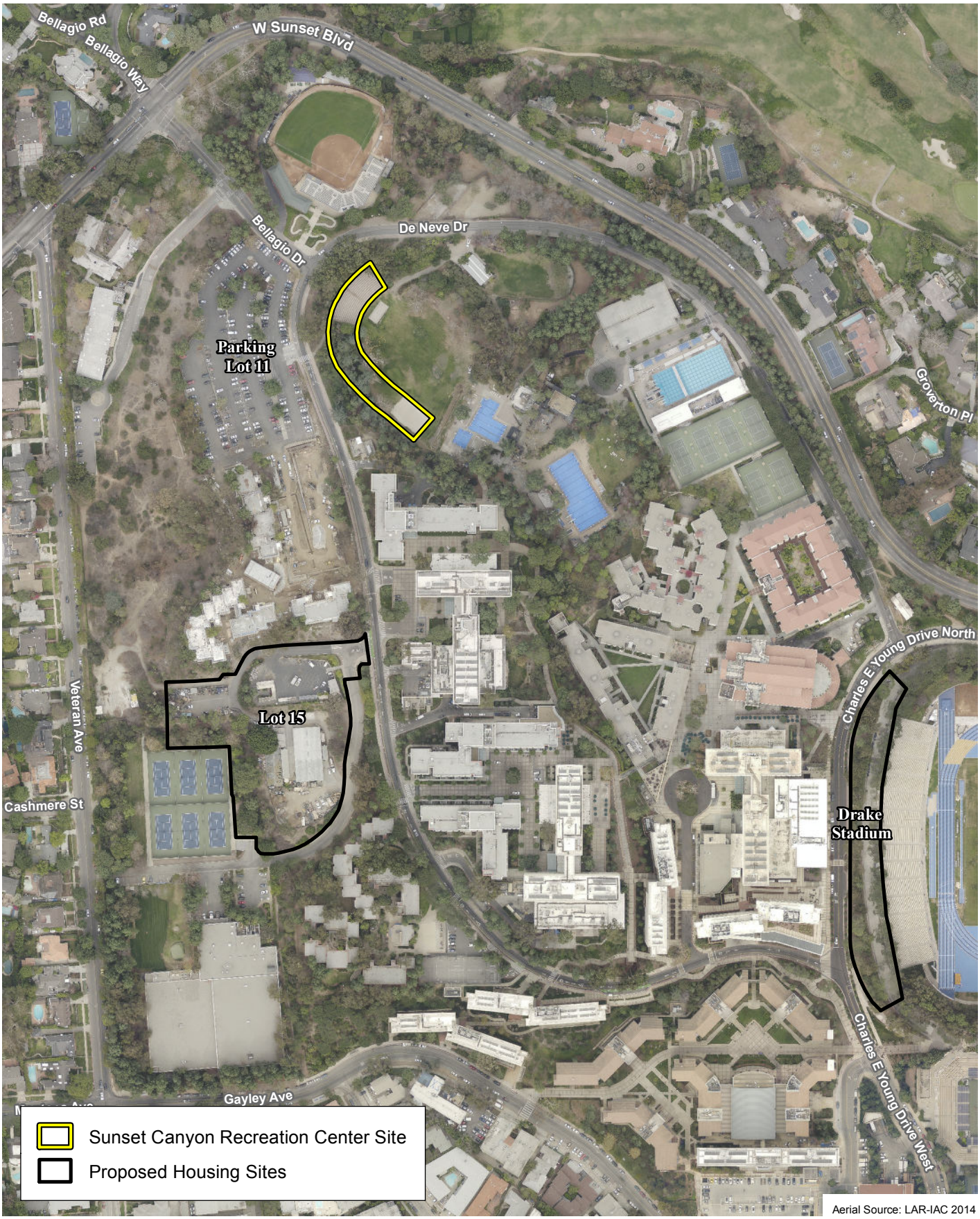
Based on input received during the scoping process, UCLA is analyzing this alternative, which assumes that the housing project proposed at the Lot 15 site would occur at the Sunset Canyon Recreation Center (353,000 gsf of new development and up to 1,800 beds). Specifically, the proposed housing would be constructed east of De Neve Drive generally in the area currently developed with the existing amphitheater and sand volleyball courts (refer to Figure 5-1).

Under Alternative 4, the loss of recreational and athletic facilities that would occur in this area of the Sunset Canyon Recreation Center would substantially affect the ability for UCLA to accommodate these uses. Due to the limited land available in the Northwest zone to accommodate any new development, including recreation and athletic uses, the displaced uses would need to be relocated to the Lot 15 site. This would include the relocation of passive and non-passive recreation uses, including but not limited to summer camps, concerts (Jazz Reggae Festival), conference groups, student events/programming, Outdoor Adventure Programming, BBQ/picnic rentals, and leisure activities. Restroom, locker rooms and showers would need to be installed, along with safety and security lighting, consistent with lighting currently provided at the Sunset Canyon Recreation Center.

The relocation of summer camps and other large group activities would potentially require construction of parking and an area for pick-up/drop-off needs, as these programs have substantial volumes of participants that are picked up and dropped off.

Consistent with the proposed development at the Lot 15 site, this alternative would require The Regents to approve a modification to the Stipulated Use Agreement for non-benign recreational uses, including sand volleyball courts and spectator seating.

Each of the remaining proposed housing projects at the Warren Hall, UNEX, Bradley, and Drake Stadium sites would be developed consistent with the proposed Project. Therefore, with implementation of this alternative, the total amount of new development on campus would be slightly more than 1,715,000 gsf, when taking into consideration smaller structures that would be needed to support the athletic and recreation facilities at the Lot 15 site. The existing Warren



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Alternative 4: Northwest Zone Site/Sunset Canyon Recreation Center

Figure 5-1

UCLA LRDP Amendment (2017) and Student Housing Projects

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W E
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Feet

PSOMAS

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Hall, UNEX building, and buildings at the Lot 15 site (totaling 215,000 gsf) would be demolished; therefore, there would be a net increase of slightly more than 1,378,000 gsf on campus. The proposed LRDP Amendment under this alternative would reflect this, and the amendment would be to allocate 1,378,000 gsf of new development to the Existing LRDP.

Comparative Analysis of Environmental Impacts

Aesthetics

Under Alternative 4, the visual changes resulting from development at the Warren Hall, UNEX, Bradley, and Drake Stadium sites would be the same as with the proposed Project. The aesthetic impacts from these housing projects would be less than significant with incorporation of applicable LRDP Final EIR PPs and MMs to address the visual character of the campus, and adherence to the UCLA Physical Design Framework.

The Lot 15 site is not within the viewshed of a scenic vista, nor is it located within a State scenic highway or other scenic roadway. Therefore, as with the proposed Project, no aesthetic impacts related to scenic vistas or scenic highway/roadways would occur with implementation of recreational and athletic facilities at the Lot 15 site. Additionally, due to the landscape perimeter, the lower elevation of the Sunset Canyon Recreation Center site, and distance from Sunset Boulevard, it is not expected that the housing structures at the Sunset Canyon Recreation Center would be visible from Sunset Boulevard.

Alternative 4 would introduce recreational and athletic facilities at the Lot 15 site and develop housing at the Sunset Canyon Recreation Center. Physical development at the Lot 15 site would be limited to structures for restroom, locker rooms, showers, and bleachers. There would also be a need to remove trees to accommodate the proposed facilities, consistent with the proposed Project. While there would be new development at this site under Alternative 4, the visual character would not be substantially different from existing conditions, which includes the Ornamental Horticultural building and temporary office and storage facilities.

The development of housing structures at the Sunset Canyon Recreation Center would be visible from immediately adjacent uses, which primarily consist of on-campus recreation, parking, and housing in the Northwest zone. Views from off-campus vantage points would likely be obstructed by intervening topography, development, and mature trees, including the campus perimeter landscape buffer along Veteran Avenue and Sunset Boulevard. As with the proposed Project, with incorporation of applicable LRDP Final EIR PPs and MMs and with adherence to the UCLA Physical Design Framework, the proposed development under Alternative 4 would not degrade the existing visual character or quality of the respective development sites and their surroundings, nor add would it add sources of substantial light and glare.

Although the visual changes resulting from implementation of the proposed housing project at the Lot 15 site would be more prominent than the development proposed with Alternative 4, the change in visual character and potential light and glare impacts would be less than significant for Alternative 4 and the proposed Project.

Air Quality

Alternative 4 would involve the same construction activities (including demolition, grading, and excavation) and operations as the proposed Project at the Warren Hall, UNEX, Bradley, and Drake Stadium sites.

The five proposed housing projects collectively would not exceed SCAQMD thresholds and would result in less than significant construction-related and operational air quality impacts. Alternative 4 would require similar demolition activities at the Lot 15 site compared to the proposed Project. The development of the housing project at the Sunset Canyon Recreation Center would require additional demolition activities to remove the existing amphitheater, but the construction activities for the new housing would be similar to the proposed Project. Additionally, the development of athletic and recreational uses at the Lot 15 site would involve additional construction that would not occur with the proposed Project. Therefore, under Alternative 4, construction-related air quality emissions associated with development at the Lot 15 site and Sunset Canyon Recreation Center site would be increased compared to the proposed Project, but it is expected the impacts would remain less than significant.

Because the same number of undergraduate beds would be developed at the Sunset Canyon Recreation Center as with the proposed housing project at the Lot 15 site, the same number of new staff positions would be generated, and the recreational and athletic facilities to be constructed at the Lot 15 site would replace existing uses, Alternative 4 would have similar operational air quality emissions as the proposed Project and the impact would be less than significant.

The contribution of the proposed housing projects under Alternative 4 to cumulative air quality impacts during construction and operation would be similar to the proposed Project, although slightly greater during construction activities. Therefore, with Alternative 4, cumulative air quality impacts of the proposed housing projects during construction and operation would remain significant and unavoidable, consistent with the proposed Project.

The interim condition that assumes combined emissions from operation of the proposed housing projects at the Lot 15, Warren Hall, and UNEX sites at the same time as construction at the Bradley and Drake Stadium sites would still occur under Alternative 4. Therefore, there would be a potentially significant interim impact associated with NOx emissions due to grading activities at the Bradley site occurring at the same time as operation of the housing projects at the Sunset Canyon Recreation Center site, Warren Hall, and UNEX sites. However, as with the proposed Project, this impact would be mitigated to a less than significant level with use of Tier IV construction equipment during grading at the Bradley site.

As with the proposed housing projects, Alternative 4 would neither conflict with nor obstruct implementation of the AQMP since the proposed housing projects and Alternative 4 do not provide for population, housing, or employment growth that exceeds SCAG regional forecasts , which form the basis of the land use and transportation-control portions of the AQMP. Alternative 4 would generate the same amount of employment opportunities as the proposed Project; replacement of recreation and athletic facilities would not require additional staff positions.

Implementation of the proposed housing projects with the proposed Project and Alternative 4 would not introduce new types of uses or change existing operations on campus; would not expose sensitive receptors to substantial pollutant concentrations or toxic air contaminants; and would not create objectionable odors resulting in a less than significant impact.

Biological Resources

The vegetation and tree removal that would occur with implementation of the proposed housing projects at the Warren Hall, UNEX, Bradley, and Drake Stadium sites would occur with Alternative 4, and potential impacts would be less than significant with incorporation of LRDP Final EIR PPs and MMs. Additionally, none of the proposed housing sites, including the Lot 15 site or the Sunset Canyon Recreation Center site, support sensitive habitat or species or jurisdictional areas; therefore, Alternative 4 and the proposed Project would not impact sensitive biological resources.

With implementation the proposed housing project at the Sunset Canyon Recreation Center site instead of the Lot 15 site, additional trees and ornamental vegetation at the Sunset Canyon Recreation Center would need be removed. While there may be a reduction in the amount of trees and vegetation removed at the Lot 15 site to accommodate recreation and athletic facilities, there would still be vegetation removed. Therefore, the total amount of tree and other vegetation removal would be greater under Alternative 4 than with the proposed Project. However, Alternative 4 and the proposed Project would have less than significant impacts to biological resources because the proposed development at the Lot 15 site, Sunset Recreational Center site, and the remaining four housing sites would be required to follow applicable LRDP Final EIR PPs and MMs related to the removal of mature trees and the potential disturbance of occupied nests.

Alternative 4 and the proposed Project would not impact wildlife movement and would not conflict with an adopted Habitat Conservation Plan or Natural Community Conservation Plan.

Cultural and Tribal Cultural Resources

As discussed in Section 4.4, Cultural and Tribal Cultural Resources, of this Draft SEIR, the proposed housing project at the Warren Hall site would involve demolition of the existing Warren Hall building, which is an eligible historic resource pursuant to CEQA, resulting in a significant and unavoidable impact, even with implementation of the identified MMs. Under Alternative 4, the proposed housing development at the Warren Hall site would still occur. Therefore, Alternative 4 would not avoid the significant and unavoidable impact to a historic resource resulting from the proposed Project.

With the exception of the Drake Stadium site, implementation of the proposed housing projects with the proposed Project involve excavation in previously undisturbed native sediments. Under Alternative 4, there would potentially be additional excavation into native sediments at the Sunset Canyon Recreation Center site; therefore, there would also be a potential to disturb previously unidentified archaeological and paleontological resources, tribal cultural resources, and human remains at this site. However, the potential for encountering unidentified resources at any of the sites is considered low and, with incorporation of applicable LRDP Final EIR PPs and MMs related to the protection of these resources, potential impacts would be less than significant for the proposed Project and Alternative 4.

Geology and Soils

As discussed in Section 4.5, Geology and Soils, of this Draft SEIR, geologic and seismic considerations such as the potential for ground shaking, liquefaction, landslides, lateral spreading, subsidence, compressible soils and settlement, and unsuitable soils have been evaluated and determined to be manageable relative to the proposed housing projects with adherence to applicable requirements as outlined in the LRDP Final EIR PPs and MMs.

Given that geotechnical conditions across the campus are generally the same and that the types of land uses anticipated to be developed under Alternative 4, including housing at the Sunset Canyon Recreation Center, are not substantially different from a geotechnical and seismic safety standpoint, it is likely that development of Alternative 4 would have impacts related to geology and seismicity similar to those associated with the proposed Project. As with the proposed Project, these impacts would be less than significant with implementation of the identified LRDP Final EIR PPs and MMs, including adherence to recommendations made in project-specific geotechnical reports.

Development on campus under Alternative 4 and the proposed Project would connect to the municipal sewer system; therefore, no impacts related to soils incapable of supporting septic tanks or alternative wastewater disposal systems would result.

Greenhouse Gas Emissions

As identified in Section 4.6, Greenhouse Gas Emissions, of this Draft SEIR, the estimated annual operational GHG emissions for the proposed housing projects, including amortized construction emissions would exceed the established SCAQMD screening threshold; however, the proposed Project GHG efficiency of 0.80 $MTCO_2e$/year per SP in 2025 would be substantially less than the efficiency target of 4.2 $MTCO_2e$/year per SP and would also be substantially less than the 2035 target of 3.0 $MTCO_2e$/year per SP. GHG emissions would not either directly or indirectly have a significant impact on the environment with implementation of the proposed housing projects.

With implementation of Alternative 4, there would be additional construction activities in light of development at both the Lot 15 and Sunset Canyon Recreation Center sites. However, the operational emissions would be similar to the proposed Project because the recreation and athletic facilities would replace existing uses that would be displaced, and the number of beds, size of the buildings, and number of new staff positions would be the same. Therefore, with implementation of Alternative 4, there would be a slight increase in construction-related GHG emissions (amortized over 30 years) and no change in operational emissions compared to the proposed Project. Potential environmental impacts from GHG emissions would be less than significant with Alternative 4 and the proposed Project.

As with construction and operation of the proposed housing projects, under Alternative 4, the campus would continue to implement the UC Policy on Sustainable Practices; UC and UCLA regulatory programs/requirements in place at the time of development; and applicable federal, State, and regional plans, policies, and regulations. As with the proposed Project, Alternative 4 would not conflict with plans and policies adopted for the purposes of reducing GHGs, resulting in a less than significant impact.

Hazards and Hazardous Materials

As addressed in Section 4.7, Hazards and Hazardous Materials, of this Draft SEIR, with incorporation of the identified LRDP Final EIR PPs and project-specific mitigation measures (for the potential impacts at the Lot 15 site), the proposed housing projects would not result in significant hazards or hazardous materials impacts related to the routine transport, use, disposal, or storage of hazardous materials; exposure of construction workers to hazardous materials during construction; release of hazardous materials into the environment; exposure to contaminated soils or groundwater (which is not known to exist on campus); handling of hazardous materials within 0.25 mile of a school; development on identified hazardous sites; exposure of people to safety hazards from RRUCLAMC helicopter activities; or interference with an emergency response or evacuation plan.

Under Alternative 4, the proposed housing projects at the Warren Hall, UNEX, and Drake Stadium sites would be the same and would have the same potential impacts as with the proposed Project. With relocation of athletic and recreation uses to the Lot 15 site, there would continue to be a potential for exposure to hazardous materials from previous uses. As required by the LRDP Final EIR PPs and Project-specific mitigation for the Lot 15 site, UCLA would ensure that any hazard materials are appropriately remediated and/or disposed of prior to use of the site by sensitive receptors. Similarly, while no known hazardous materials exist at the Sunset Canyon Recreation Center site, which is currently occupied by outdoor recreational and athletic facilities, should any hazardous materials be encountered during construction, they would be handled in accordance with applicable regulations and requirements. Therefore, the impacts under Alternative 4 would be similar to the proposed Project.

Additionally, there are no areas on campus subject to wildland fire hazards; no impact would result with Alternative 4 or the proposed housing projects.

Hydrology and Water Quality

As addressed in Section 4.7, Hydrology and Water Quality, with implementation of the identified LRDP Final EIR PPs and MMs, the proposed housing projects would not result in significant hydrology and water quality impacts. Implementation of the proposed housing projects, which would collectively result in an increase in impervious surfaces, would increase the amount of runoff and associated urban pollutants on campus.

Under Alternative 4, the change in amount of pervious/impervious surface at the Warren Hall, UNEX, Bradley, and Drake Stadium sites would be the same as with the proposed Project. It is not expected that the introduction of recreation and athletic facilities at the Lot 15 site would substantially change the drainage conditions at this site. However, the construction of housing at the Sunset Canyon Recreation Center site would increase the amount of impervious surface at this site. Therefore, Alternative 4 would likely increase the amount of storm water runoff compared to the proposed Project. Runoff from development under Alternative 4 and the proposed Project would include pollutants consistent with the existing developed campus areas. With incorporation of LRDP Final EIR PPs and MMs, which address compliance with applicable water quality regulations, and implementation of BMPs, hydrology and water quality impacts from Alternative 4 would be reduced to a level considered less than significant, similar to the proposed Project.

As with the proposed Project, Alternative 4 would not substantially deplete groundwater supplies or interfere with groundwater recharge. Additionally, as with the proposed Project, Alternative 3 would not cause runoff that exceeds the capacity of existing storm drain systems or provide substantial additional sources of polluted runoff. Alternative 4 would have similar impacts as the proposed Project for these issues.

Additionally, Alternative 4 and the proposed Project would not place housing or structures in a 100-year floodplain or expose people or structures to flooding, and would not cause inundation (by seiche, tsunami or mudflow), as the campus is not subject to these conditions.

Land Use and Planning

Under Alternative 4, the proposed housing projects at the Warren Hall, UNEX, Bradley, and Drake Stadium sites would be developed consistent with the proposed Project. Recreation and athletic facilities would be relocated to the Lot 15 site and housing proposed at the Lot 15 site would be moved to the Sunset Canyon Recreation Center site. With implementation of Alternative 4, the total amount of new development on campus would be similar to the proposed Project, and an LRDP Amendment to add approximately 1,500,000 gsf of new development allocation to the Existing LRDP would still be required.

As with the proposed Project, proposed housing projects under Alternative 4, including at the Sunset Canyon Recreation Center site, would be implemented in accordance with the development objectives in the Existing LRDP, applicable LRDP Final EIR PPs and MMs, and the 2009 UCLA Physical Design Framework, which were established to ensure compatibility between proposed projects and existing development on and off campus.

With implementation of Alternative 4, 6,900 undergraduate and graduate student beds would be provided on campus. Therefore, consistent with the proposed Project, UCLA would be able to meet the housing goals outlined in the SHMP, resulting in less than significant land use impact.

With Alternative 4, the proposed housing projects at the Warren Hall, UNEX, Bradley, and Drake Stadium sites would be the same as the proposed Project. None of these sites are subject to the provisions of the Stipulated Agreement of Compromise and Order with the Westwood Hills Property Owners' Association or the Urban Wildlands Group Hillside Use Agreement. Additionally, although the Sunset Canyon Recreation Center site is in the Northwest zone, it is not in any of the areas addressed by the provisions of these agreements. As discussed in Section 4.9, Land Use and Planning, of this Draft SEIR, development of the Lot 15 site is subject to the provisions of the Stipulated Agreement of Compromise and Order with the Westwood Hills Property Owners' Association. With respect to recreational and athletic space, the Order limits these uses to "low intensity, nonspectator" space. As described above, spectator seating would be required to support the uses being relocated from the Sunset Canyon Recreation Center, including sand volleyball and large group activities. Therefore, consistent with the proposed Project, Alternative 4 would require an amendment to the Order to exclude the Lot 15 site from the identified land use restrictions. As identified previously, the development of housing at the Sunset Canyon Recreation Center site would displace athletic and recreation uses that would need to be replaced in the Northwest zone. As discussed previously, Lot 15 is one of the only remaining areas in the Northwest zone that can be redeveloped with little to no disruption of existing uses and operations. The determination that there have been "changes in circumstances" that warrant an amendment to the Order to allow for development of the Lot 15 site would be the same for Alternative 4 as they are for the proposed Project since ultimately it is the development of housing at the Sunset Canyon Recreation Center site that requires the implementation of recreation and athletic facilities at the Lot 15 site. As discussed through this alternatives analysis, there would be no direct or indirect impacts to the Westwood Hills Community. Consistent with the proposed Project, Alternative 4 would not conflict with the provisions of Order.

As with the proposed Project, the proposed student housing development under Alternative 4 would be considered regionally significant and would not conflict with the identified regional goals and policies outlined in the SCAG 2016–2040 RTP/SCS.

Alternative 4 and the proposed housing projects would not divide an established community and would not be subject to the provisions of any adopted Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, no impacts would result.

Noise

Noise and vibration impacts resulting from implementation of the proposed Project are discussed in Section 4.10, Noise and Vibration, of this Draft SEIR. Under Alternative 4, the construction activities at the Warren Hall, UNEX, Bradley, and Drake Stadium sites would be the same as the proposed Project. Construction activities under Alternative 4 at these proposed housing sites would be conducted in accordance with the PPs and MMs in the LRDP Final EIR. Even though construction-related noise impacts would be reduced to the extent feasible, adjacent sensitive noise receptors at the UNEX, Warren Hall, Bradley, and Drake Stadium sites would be exposed to noise levels that exceed the established criteria and would be significant and unavoidable, consistent with the proposed Project.

With implementation of Alternative 4, there would be construction activities at the Lot 15 site to develop replacement recreation and athletic facilities, as well as construction at the Sunset Canyon Recreation Center site to develop the proposed student housing. As with the other proposed housing sites, construction-related noise impacts would be significant and unavoidable at the Lot 15 and Sunset Canyon Recreation Center sites because construction would occur adjacent to sensitive receptors. Therefore, Alternative 4 would have greater construction-related noise impacts than the proposed Project, which does not involve construction at the Sunset Canyon Recreation Center site.

With respect to cumulative construction-related noise impacts, the significant and unavoidable impact resulting from the proposed housing projects is specifically related to the concurrent construction activities at the Warren Hall, UNEX, and Margan Apartments sites. Therefore, Alternative 4, which includes construction at these sites, would not avoid this cumulative noise impact.

The types of construction that would be used at the Lot 15, Warren Hall, UNEX, Bradley, and Drake Stadium sites would be the same as the proposed Project and would expose adjacent uses to vibration. Under Alternative 4, additional construction would occur at the Sunset Canyon Recreation Center, which would also be adjacent to existing uses, including housing to the south. Construction activities under Alternative 4 and the proposed Project would be conducted in accordance with the PPs and MMs in the LRDP Final EIR, including the requirement to use small equipment, as feasible, to reduce vibration impacts to less than significant levels. Because use of small equipment during construction is feasible at each of the proposed housing sites and the Sunset Canyon Recreation Center, vibration impacts during construction would be less the significant with Alternative 4 and the proposed Project.

As discussed in Section 4.13, Transportation/Traffic, of this Draft SEIR, the proposed housing projects would slightly reduce average daily traffic on campus. With implementation of Alternative 4, which includes replacement of existing recreation and athletic uses at the Lot 15 site and development of the housing proposed at the Lot 15 site with the proposed Project at the Sunset Canyon Recreation Center site, the trip generation would be the same as the proposed Project. Consistent with the proposed Project, Alternative 4 would not cause significant traffic-related noise impacts during operation.

Noise generated from on-campus housing with implementation of Alternative 4 and the proposed Project would be similar to existing housing areas on campus, including housing near the Sunset Canyon Recreation Center. Student residents would be required to comply with the UCLA “On Campus Housing Regulations” and the UCLA Student Conduct Code, which require that noise levels do not disturb other residents. However, with implementation of Alternative 4, athletic and recreation facilities displaced from the Sunset Canyon Recreation Center, including bleachers for spectators, would be relocated to the Lot 15 site. Activities at the Lot 15 site under Alternative 4

would include, but not be limited to, sand volleyball, summer camps, concerts, conference groups, student events/programming, Outdoor Adventure Programming, BBQ/picnic rentals, and leisure activities. The gathering of large groups would generate higher noise levels compared to the noise levels at Lot 15 site under existing conditions and similar or greater noise than with the proposed housing project. Under Alternative 4, there would be fewer buildings to shield outdoor noise between the project site and the off-campus residences to the west. Because of the different characteristics of traffic noise and recreational activities, some noise from the recreational activities may be perceptible at Veteran Avenue during lulls in traffic. However, similar to the proposed Project, the noise at the off-campus residences would be less than the daytime traffic noise levels and similar to or less than nighttime traffic noise levels.

Neither Alternative 4 nor the proposed Project would have a significant noise impact related to exceedance of established noise standards. Additionally, as with the proposed Project, development at the proposed housing sites, including the Bradley site, would not expose people to excessive noise levels from helicopter operations at RRUCLAMC.

Population and Housing

As identified in Section 4.11, Population and Housing of this Draft SEIR, the proposed Project, which would not increase the total student enrollment, would not increase the on-campus average weekday student population. However, there would be an increase in the number of staff positions on campus (145 new staff positions). These staff positions represent a negligible increase in new jobs when compared to the total existing and projected jobs in the County or even the City of Los Angeles and would likely be filled by the local labor pool.

Implementation of Alternative 4, which involves the same amount of student housing as the proposed Project, also would not increase the on-campus average weekday student population. Additionally, Alternative 4 would generate the same number of staff positions as the proposed Project. Therefore, population and housing impacts would be less than significant for both Alternative 4 and the proposed Project.

Additionally, as with the proposed Project, Alternative 4 would not displace existing uses that would require the construction of housing elsewhere.

Public Services and Recreation

As discussed in Section 4.12, Public Services and Recreation, of this Draft SEIR, implementation of the proposed Project and associated increase in staff and the student resident population on campus would increase the demand for public services (fire, police, parks/recreation, and library), but not to an extent that new or expanded facilities would be needed. With implementation of Alternative 4, there would be the same amount of student housing and employment generation. Additionally, the recreation and athletic facilities to be relocated to the Lot 15 site would be replacement facilities, not new to campus. Therefore, the increase in demand for public services and recreational facilities would be the same and there would not be a need for new or expanded facilities, similar to the proposed Project.

As with the proposed Project, Alternative 4 would not include uses that would generate new student population at public schools. No new or expanded school facilities would be needed.

Transportation/Traffic

As identified in Section 4.13, Transportation/Traffic, of this Draft SEIR, the proposed Project, which would involve the development of up to 6,900 undergraduate and graduate beds on campus, would generate 24 fewer AM peak hour trips compared to existing conditions and would generate 12 additional PM peak hour trips. The increase in PM peak hour trips would not cause a significant traffic impact at study area intersections or CMP facilities.

With implementation of Alternative 4, there would be the same amount of student housing and employment generation. Additionally, the recreation and athletic facilities to be relocated to the Lot 15 site would be replacement facilities, not new to campus. Therefore, the trip generation from Alternative 4 would be the same as the proposed Project. Consistent with the proposed Project, there would be no traffic impacts at study area intersections or CMP facilities.

With respect to construction-related traffic, Alternative 4 would generate more construction traffic, including heavy truck trips, compared to the proposed Project, due to construction activities at the Lot 15 and Sunset Canyon Recreation Center sites. However, with adherence to the LRDP Final EIR PPs and MMs and project-specific MM TRF-1 related to construction activities, the impacts from the proposed housing projects would be less than significant for Alternative 4 and the proposed Project.

The proposed Project could potentially have a considerable contribution to significant cumulative construction-related traffic impacts resulting in a potentially significant and unavoidable impact. This impact would also occur with Alternative 4.

Under Alternative 4, as required by the LRDP Final EIR PP, the campus TDM program would continue; therefore Alternative 4 would not conflict with adopted plans, policies, or programs supporting alternative transportation, and impacts would be less than significant, similar to the proposed Project. Alternative 4 and the proposed Project would accommodate pedestrian and bicycle modes of travel and emergency access during construction and operation, and would include improvements to the bus stop south of the Warren Hall site, resulting in less than significant traffic impacts.

Utilities and Service Systems

As identified in Section 4.14, Utilities and Service Systems, of this Draft SEIR, the proposed housing projects would result in an increased demand for utilities and service systems (water, wastewater, natural gas, electric, and solid waste). With the exception of upgraded sewer lines in Veteran Avenue and Gayley Avenue, the proposed housing projects would not require the construction of new or expanded facilities beyond that needed to connect proposed uses to existing infrastructure facilities. The physical impacts associated with installation of utility infrastructure and upgraded sewer lines were addressed in applicable sections of the Draft SEIR, and would be less than significant.

Implementation of Alternative 4 would also increase the demand for utilities and service systems. The proposed developments at the Warren Hall, Sunset Canyon Recreation Center, and Drake Stadium sites would require upgrades to sewer lines in Veteran Avenue and Gayley Avenue, similar to the proposed Project. As with the proposed Project, the physical impacts associated with installation of utility infrastructure and upgraded sewer lines would be less than significant.

With respect to solid waste, compared to the proposed Project, Alternative 4 would generate more solid waste during construction (due to the additional demolition and other construction activities) and the same amount of solid waste during operation. However, consistent with UC Policies, solid waste generated during construction and operation would be diverted from the local landfills. Therefore, solid waste impacts with Alternative 4 and the proposed Project would be similar and would be less than significant.

Ability to Meet the Project Objectives

Alternative 4, Alternative Northwest Zone Site/Sunset Canyon Recreation Center, would involve development of the housing proposed at the Lot 15 site at the Sunset Canyon Recreation Center (353,000 gsf and 1,800 undergraduate beds). Active and passive recreation and athletic facilities displaced at the Sunset Canyon Recreation Center would be relocated to the Lot 15 site.

Alternative 4 would meet the following project objectives.

1. Provide new, on-campus, undergraduate and graduate student housing that improves the quality of student life, supports the academic experience, and fosters their personal and social development.
2. Provide up to 6,900 undergraduate and graduate student beds in on-campus housing to address current and anticipated demand consistent with the Student Housing Master Plan goals.
3. Continue the development of University-owned housing to ensure that student housing remains affordable, while providing different housing options to meet the needs of a diverse group of UCLA students.
4. Continue the transformation of the UCLA campus from a commuter to a residential campus, which reduces vehicle miles traveled and energy consumption.
6. Provide additional on-campus student housing that includes apartment-style housing, which is considered essential for the recruitment of outstanding graduate and transfer students and for the retention of upper division undergraduates.
7. Provide additional on-campus, dormitory-style housing for first- and second-year undergraduates.
9. Provide new on-campus graduate housing in the Southwest zone of campus that is designed to continue to build a graduate-level community proximate to academic, recreation, and social resources.
11. Plan, design, and implement the proposed Project in a manner consistent with the UC Policy on Sustainable Practices.

The following objectives would be met, but not to the same extent as the proposed Project.

5. Provide University-owned housing that is competitive in the surrounding Westwood residential housing market, offering units below current rental market rates for similar style units. *Under Alternative 4, the UNEX, Warren Hall, Bradley, and Drake Stadium sites would be developed along with housing at the Sunset Canyon Recreation Center site. In addition, Lot 15 would be developed for recreation and athletic facilities displaced by housing at Sunset Canyon. The added cost of redeveloping Lot 15 would be absorbed by the housing sites and would reduce the University's ability to offer below rental market rates for the housing.*

8. Provide on-campus student housing that maximizes the use of limited land resources through dense development of on-campus sites, consistent with a mature urban University.

   This objective would be met at the UNEX, Warren Hall, Bradley, and Drake Stadium sites. However, development of housing at the Sunset Canyon Recreation Center site forces relocation of the athletic and recreation facilities that would be displaced to the Lot 15 site. However, the use of the Lot 15 site for recreation and athletic facilities would not maximize the use of this site. To maximize the use of this site with athletic and recreation uses, additional facilities would need to be constructed. As discussed previously, through the site selection process, it was determined that development of the Lot 15 site with residential uses would maximize the use of limited land resources in the Northwest zone.

10. Site and develop new student housing proximate to existing University housing to bridge efficiencies in the availability of dining services, recreational facilities, and resident student programming.

    Alternative 4 would include the development of student housing in the proximate to existing student housing in the Northwest zone. However, under Alternative 4, some functions at the Sunset Canyon Recreation Center would be relocated to Lot 15, while other functions would remain in their current location. Dividing the uses into two areas would compromise the overall operations.

5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of an environmentally superior alternative. Section 15126.6(e)(2) of the State CEQA Guidelines states that if the No Project Alternative is the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other alternatives. Table 5-3 provides, in summary format, a comparison of the level of impacts for each alternative to the proposed Project. The impact of the respective alternatives is identified, followed parenthetically by the comparison to the impact of the proposed Project.

Alternative 1, No Project/Development Pursuant to the Existing LRDP, would avoid the significant and unavoidable project and cumulative impacts resulting from the proposed Project, including the demolition of a historic resource (the Warren Hall building). Additionally, this alternative would have similar or fewer impacts for the other impact categories compared to the proposed Project. However, this alternative, which provides no on-campus student housing, would not meet any of the Project objectives, with the exception of the objective to implement the proposed Project in a manner consistent with the UC Policy on Sustainable Practices.

Based on the comparative analysis provided in this section for each of the alternatives (as summarized in Table 5-3), Alternative 3, Reduced Development Area/Reduced Beds, which would eliminate the Bradley site from the proposed Project, is the environmentally superior alternative. While it does not avoid or substantially reduce the proposed Project's significant and unavoidable impacts, it has fewer impacts compared to the proposed Project for 14 of 24 environmental issues listed in Table 5-3, and similar impacts for the remaining 10 issues. Alternative 3 does not have any impacts greater than the proposed Project. The reduction in impacts is primarily related to the reduction in construction activities as no construction would occur at the Bradley site, which has the most earthwork of the five proposed housing sites. Additionally, with the elimination of dining services provided at the Bradley site with the proposed Project, Alternative 3 results in an overall reduction in new staff positions generated and an associated reduction in traffic generation. Although the proposed Project would not result in any significant impacts associated with operational trip generation (e.g., traffic, operational air quality,

GHG emissions, noise), the reduction in traffic for Alternative 3 would result in lesser impacts than the Project for these issues. Additionally, Alternative 3 meets 7 of the 11 project objectives, and generally meets the remaining 4 objectives, but not to the same extent as the proposed Project.

Alternative 2, Warren Hall Building Adaptive Reuse, would avoid the proposed Project's significant and unavoidable impact to historic resources; however, it would have a new significant and unavoidable land use impact due to its conflict with UCLA's Student Housing Master Plan. This alternative would have fewer or reduced impacts for 11 impact categories, and similar impacts for 9 impact categories, compared to the proposed Project. With respect to meeting Project objectives, the Warren Hall Building Adaptive Reuse Alternative would meet 6 objectives, which (1) address the provision of on-campus housing, specifically dormitory housing, which would still be provided under Alternative 2 or (2) are not related to the provision of housing. It would generally be consistent with 4 objectives, but not to the same extent as the proposed Project due the substantial reduction in beds at the Warren Hall site. Finally, with the accommodation of up to 4,750 beds, Alternative ~~3~~ 2 would not meet the Project objective to provide up to 6,900 undergraduate and graduate student beds in on-campus housing to address current and anticipated demand consistent with the Student Housing Master Plan goals.

Alternative 4, Alternative Northwest Zone Site/Sunset Canyon Recreation Center, would have the same significant and unavoidable impacts as the proposed Project. Due to the construction necessary to relocate recreation and athletic uses to the Lot 15 site in addition to construction of the proposed housing at the Sunset Canyon Recreation Center, Alternative 4 has greater impacts compared to the proposed Project for 10 environmental issues listed in Table 5-3 and similar impacts for 14 for the remaining issues. Although Alternative 4 would meet most of the Project objectives, it would not have fewer or reduced impacts for any impact category and would not be environmentally superior to the proposed Project.

TABLE 5-3
COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT

Impact Area	Proposed Project	No Project/ Development Pursuant to the Existing LRDP (Alternative 1)	Warren Hall Building Adaptive Reuse (Alternative 2)	Reduced Development Area/ Reduced Beds (Alternative 3)	Alternative Northwest Zone Site/ Sunset Canyon Recreation Center (Alternative 4)
Aesthetics	LS	LS (similar)	LS (similar)	LS (less)	LS (greater)
Air Quality					
Construction	LS	LS (less)	LS (less)	LS (less)	LS (greater)
Operation	LS	LS (less)	LS (less)	LS (less)	LS (similar)
Interim Combined Operation and Construction	LS	N/A	LS (less)	LS (less)	LS (similar)
Cumulative	SU	LS (less)	SU (less)	SU (less)	SU (greater)
Biological Resources	LS	LS (less)	LS (less)	LS (less)	LS (greater)
Cultural Resources and Tribal Cultural Resources					
Historic Resources	SU	No Impact	LS (less)	SU (similar)	SU (similar)
Archaeological, Tribal Cultural, and Paleontological Resources	LS	LS (similar)	LS (similar)	LS (similar)	LS (similar)
Geology and Soils	LS	LS (similar)	LS (similar)	LS (similar)	LS (similar)
Greenhouse Gas Emissions	LS	LS (less)	LS (less)	LS (less)	LS (similar)
Hazards and Hazardous Materials	LS	LS (similar)	LS (similar)	LS (similar)	LS (similar)
Hydrology and Water Quality	LS	LS (similar)	LS (similar)	LS (similar)	LS (similar)
Land Use and Planning	LS	SU (greater)	SU (greater)	LS (similar)	LS (similar)
Noise and Vibration					
Construction Noise	SU	LS (similar)	SU (less)	SU (less)	SU (greater)
Operational Noise	LS	LS (similar)	LS (similar)	LS (similar)	LS (greater)
Cumulative Noise	SU	LS (less)	SU (less)	SU (similar)	SU (greater)
Construction and Operational Vibration	LS	LS (similar)	LS (similar)	LS (similar)	LS (similar)
Population and Housing	LS	LS (similar)	LS (similar)	LS (similar)	LS (similar)
Public Services and Recreation	LS	LS (similar)	LS (less)	LS (less)	LS (similar)

Impact Area	Proposed Project	No Project/ Development Pursuant to the Existing LRDP (Alternative 1)	Warren Hall Building Adaptive Reuse (Alternative 2)	Reduced Development Area/ Reduced Beds (Alternative 3)	Alternative Northwest Zone Site/ Sunset Canyon Recreation Center (Alternative 4)
Transportation/Traffic					
Construction	LS	LS (less)	LS (less)	LS (less)	LS (greater)
Operation	LS	LS (similar)	LS (greater)	LS (less)	LS (similar)
Cumulative Construction Traffic	SU	LS (less)	SU (less)	SU (less)	SU (greater)
Cumulative Operational Traffic	LS	LS (similar)	LS (greater)	LS (less)	LS (greater)
Utilities and Service Systems	LS	LS (less)	LS (similar)	LS (similar)	LS (similar)

LRDP: Long-Range Development Plan; LS: Less Than Significant; N/A: not applicable; SU: Significant and Unavoidable.

* This is a significant unavoidable impact that does not occur with the proposed Project.

5.6 REFERENCES

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SECTION 6.0 OTHER CEQA CONSIDERATIONS

Section 15126 of the State California Environmental Quality Act (CEQA) Guidelines requires that all aspects of a project be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the Environmental Impact Report (EIR) must also identify (1) significant environmental effects of the proposed project; (2) significant environmental effects that cannot be avoided if the proposed project is implemented; (3) significant irreversible environmental changes that would result from implementation of the proposed project; (4) growth-inducing impacts of the proposed project; (5) mitigation measures proposed to minimize significant effects; and (6) alternatives to the proposed project. Additionally, Section 21100(b)(3) of the *California Public Resources Code* and Appendix F to the State CEQA Guidelines require a discussion of potential energy impacts of proposed projects.

6.1 SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

Table 1-1, Summary of Environmental Impacts and Mitigation Measures (which is contained in Section 1.0, Executive Summary), and Sections 4.1 through 4.14 of this Draft Subsequent EIR (SEIR comprehensively identify the proposed Project's environmental effects, including the level of significance both before and after mitigation. As identified through the analysis presented in this Draft SEIR, with incorporation of applicable campus programs, practices, and procedures (PPs) and mitigation measures (MMs) identified in the March 2009 Long Range Development Plan (LRDP) Amendment Final EIR, and Project-specific MMs, the proposed Project would result in less than significant impacts for the following topical issues: aesthetics, biological resources, cultural resources (archaeological and paleontological) and tribal cultural resources, geology and soils, greenhouse gas (GHG) emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, population and housing, public services and recreation, operational traffic, and utilities and services systems.

6.2 SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

Section 15126.2(b) of the State CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. Even with incorporation of the applicable 2009 LRDP Amendment Final EIR PPs and MMs and Project-specific MMs, the proposed Project would result in the following potentially significant and unavoidable impacts. There are no feasible mitigation measures to reduce the potentially significant Project and cumulative impacts to a less than significant level. Therefore adoption of a Statement of Overriding Considerations is required.

- **Cumulative Construction-Related Air Quality Emissions.** While the combined construction emissions from the proposed housing projects would be less than significant, construction of the proposed housing projects in conjunction with cumulative projects would potentially contribute to a cumulatively considerable net increase of ozone (O_3), a pollutant for which the Southern California Air Basin (SoCAB) is in nonattainment (volatile organic compounds [VOC] and nitrogen oxides [NOx] are O_3 precursors). The Project's impacts would be less than significant, but UCLA cannot require mitigation be implemented for off-campus construction projects. The March 2009 LRDP Amendment Final EIR identified that construction-related air quality impacts would be significant and unavoidable.
- **Cumulative Operational Air Quality Emissions.** While the combined operational emissions of O_3 precursors from the proposed housing projects would be less than

significant, the operations of the proposed housing projects would contribute to a cumulatively considerable net increase of O_3, a pollutant for which the SoCAB is in nonattainment. The Project's impacts would be less than significant, but UCLA cannot require mitigation be implemented for off-campus projects. The March 2009 LRDP Amendment Final EIR identified that operation-related air quality impacts would be significant and unavoidable.

- **Historic Resource Impact.** Implementation of the proposed housing development on the Warren Hall site would require demolition of the existing Warren Hall building, which is considered a historic resource under CEQA. The demolition of this building would be considered a significant and unavoidable impact. There is no feasible mitigation to retain the historic significance of the Warren Hall building and meet the project objectives. An alternative to the proposed Project, which involves adaptive reuse of the Warren Hall building, is discussed in Section 5.0, Alternatives, of this Draft SEIR.
- **Construction-Related Noise.** A significant temporary noise impact would occur during construction activities lasting more than one day if there is an exceedance of 10 A-weighted decibels [dBA] above the ambient noise level at noise-sensitive land uses. Construction activities for each of the proposed housing projects would result in a significant and unavoidable impact related to substantial temporary or periodic increases in ambient noise levels at on-campus sensitive uses. Construction activities for the Warren Hall, UNEX, and Bradley sites would also result in a significant and unavoidable impact related to substantial temporary or periodic increases in ambient noise levels at off-campus sensitive uses. There is no additional feasible mitigation to reduce the temporary construction-related noise impact to a less than significant level. The March 2009 LRDP Amendment Final EIR identified that construction-related noise impacts would be significant and unavoidable.
- **Cumulative Construction-Related Noise.** Concurrent construction activities associated with the proposed housing projects at the Warren Hall and UNEX sites and the previously approved Margan Apartments Redevelopment project, which is located between the two sites, could result in cumulative construction-related noise impacts to sensitive receptors in the vicinity of the Warren Hall and UNEX sites. There is no additional feasible mitigation for these construction-related noise impacts. The March 2009 LRDP Amendment Final EIR identified that cumulative construction-related noise impacts would be significant and unavoidable.
- **Cumulative Construction-Related Traffic.** Due to the potential overlap between the proposed Project construction and other current and future construction projects, the proposed Project has the potential to contribute to significant and unavoidable cumulative construction-related traffic impacts. The Project's impacts would be less than significant, but UCLA cannot require mitigation be implemented for off-campus construction projects. The March 2009 LRDP Amendment Final EIR identified that construction-related traffic impacts would be significant and unavoidable.

6.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

Section 15126.2(c) of the State CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by a proposed project. Specifically, Section 15126.2(c) states the following:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a

previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Generally, a project would result in significant irreversible environmental changes if

- The primary and secondary impacts would generally commit future generations to similar uses;
- The project would involve a large commitment of nonrenewable resources;
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; and
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy) (further discussed in Section 6.5, below).

The environmental effects related to the implementation of the proposed Project are discussed in Sections 4.1 through 4.14 of this Draft SEIR. Implementation of the proposed Project would involve the construction of up to 1,715,000 gross square feet (gsf) of new student housing development at 5 identified campus sites to accommodate up to 6,900 undergraduate and graduate student beds. Development of the proposed student housing projects would require demolition of the existing buildings at the Lot 15, Warren Hall, and UNEX sites, totaling approximately 215,000 gsf, resulting in a potential net increase of 1,500,000 gsf of housing on campus. As described in Section 3.4, Environmental Setting, of this Draft SEIR, the Lot 15, Warren Hall, UNEX, and Drake Stadium sites are currently developed with various uses supporting UCLA operations. The long-term commitment of land resources to development at these sites occurred with the previous development. The Bradley site is currently an undeveloped landscaped slope; however, this site has not been designated as a campus open space resource and is not planned to be preserved. Rather, the Bradley site has been considered for multiple projects over the last decade, but none were pursued due to excavation requirements and visual prominence of the site at a main campus entrance. Therefore, the development of student housing at the proposed housing sites would not change the commitment of land resources on campus; rather, the proposed Project would result in the commitment of the UCLA campus to continue the transformation of the UCLA campus from a commuter to a residential campus, which reduces vehicle miles traveled and energy consumption. UCLA's ownership of the campus represents a long-term commitment of the campus to the University's education, research, and community service mission. After the 50- to 75-year structural lifespan of the buildings is reached, restoration of the campus (including the proposed housing sites) to pre-developed conditions would not be feasible given the degree of disturbance, the urbanization of the area, and the level of capital investment.

Construction and long-term operation of the proposed housing projects would require the commitment and reduction of nonrenewable and/or slowly renewable resources, including (1) petroleum fuels and natural gas (for vehicle emissions, construction, lighting, heating, and cooling of structures) and (2) lumber, sand/gravel, steel, copper, lead, and other metals (for use in construction). Other resources that are slow to renew and/or recover from environmental stressors would continue to be impacted by Project implementation, consistent with existing operations at the proposed housing sites. These include air quality through the combustion of fossil fuels; production of GHGs; and water supply through the continued potable water demands for drinking, cleaning, landscaping, and general maintenance needs. An increased commitment of public services (e.g., police, fire, and sewer and water services) would also be required.

Therefore, implementation of the proposed Project is an irreversible commitment of the land, energy resources, and public services, consistent with existing operations.

With respect to operational activities on campus, continued compliance with all applicable building codes, as well as PPs and MMs identified in this Draft SEIR that were previously adopted as part of the March 2009 LRDP Amendment Final EIR would ensure that all natural resources are conserved to the maximum extent possible. Additionally, the amount and rate of consumption of resources during operation would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources. It is also possible that new technologies or systems will emerge or will become more cost-effective or user-friendly to further reduce the campus reliance upon nonrenewable natural resources.

The State CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by an accident associated with a Project. While the campus uses, transports, stores, and disposes of hazardous wastes, as described in Impact 4.6-1 of Section 4.6, Hazards and Hazardous Materials, of the March 2009 LRDP Amendment Final EIR, and as further discussed in Section 4.7, Hazards and Hazardous Materials, of this Draft SEIR, the campus complies with all applicable federal and State laws and existing PPs (as required by PP 4.6-1) related to hazardous materials, which reduces the likelihood and severity of accidents that could result in irreversible environmental damage. In fact, over the campus history, there has never been an accident that resulted in irreversible environmental damage, indicating that current practices with respect to hazardous materials handling are adequate, and thus the potential for the proposed Project to cause irreversible environmental damage from an accident or upset of hazardous materials is less than significant.

6.4 GROWTH-INDUCING IMPACTS

As required by the State CEQA Guidelines, an EIR must include a discussion of the ways in which a proposed project could directly or indirectly foster economic development or population growth or the construction of additional housing, either directly or indirectly, and how that growth would, in turn, affect the surrounding environment (State CEQA Guidelines, Section 15126.2[d]). Growth can be induced in a number of ways, including the elimination of obstacles to growth or through the stimulation of economic activity within the region. The discussion of removal of obstacles to growth relates directly to the removal of infrastructure limitations or regulatory constraints that could result in growth unforeseen at the time of project approval.

In general, a project may foster spatial, economic, or population growth in a geographic area if it meets any one of the criteria identified below.

- The project removes an impediment/obstacle to growth (e.g., the establishment of an essential public service, or the provision of new access to an area).
- The project results in an increase in population that requires the need to expand or construct new public service facilities to maintain desired levels of service that could result in significant environmental effects.
- Economic expansion or growth occurs in an area in response to the project (e.g., changes in revenue base, employment expansion).
- The project establishes a precedent-setting action (e.g., a change in zoning or general plan amendment approval).

If a project meets any one of these criteria, it may be considered growth-inducing. Generally, growth-inducing projects are either located in isolated, undeveloped, or underdeveloped areas,

necessitating the extension of major infrastructure such as sewer and water facilities or roadways or encouraging premature or unplanned growth. Growth-inducing effects are not necessarily beneficial, detrimental, or of little significance to the environment (State CEQA Guidelines, Section 15126.2[d]). This issue is presented to provide additional information on ways in which this proposed Project could contribute to significant changes in the environment beyond the direct consequences of implementing the proposed Project examined in the preceding sections of this Draft SEIR.

1. **Would this project remove obstacles to growth (e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development)?** The proposed Project represents a continuation of the use of the UCLA campus for University purposes and would advance UCLA's mission of research, teaching, and service, and would be consistent with objectives for the campus as outlined in the 2002 LRDP, as amended in March 2009 (Existing LRDP). Additionally, as discussed above, the proposed Project would be constructed and operated in compliance with all applicable building codes, as well as PPs and MMs identified in this Draft SEIR that were previously adopted as part of the March 2009 LRDP Amendment Final EIR. Therefore, the proposed Project would not result in a change in the operation of the campus and would not remove an impediment or obstacle to growth. While the proposed Project would increase the development allocation in the Existing LRDP by 1,500,000 gsf, the continued development of the UCLA campus would not encourage growth through the provision of new and essential public services or access opportunities, nor would it result in urbanization of land in a remote location. The UCLA campus is located in an urbanized area that is served by an extensive network of electricity, water, sewer, storm drain, communications, roadways, and other infrastructure. With the exception of installation of on-site utility infrastructure to connect to existing facilities and required sewer line upgrades to serve the proposed housing projects at the Lot 15, Warren Hall, Bradley, and Drake Stadium sites, no new utility infrastructure would be required. The utility infrastructure installed as part of the proposed Project would be sized and located expressly to serve the proposed housing projects, and would not, therefore, induce growth in the project vicinity. Further, the area surrounding the campus consists of dense urban development with limited opportunities for substantial growth. Growth would be limited primarily to redevelopment of existing land uses.
2. **Would this project result in the need to expand one or more public services to maintain desired levels of service?** As discussed in Section 4.12, Public Services and Recreation, of this Draft SEIR, the proposed Project would generate new student residents on campus and new employment opportunities on campus (145 new staff positions). However, this population does not represent a permanent relocation of people that would create substantial population growth in the area or necessitate the expansion or construction of new public service facilities.
3. **Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?** The proposed Project would generate approximately 145 staff positions at the UCLA campus. However, as discussed in Section 4.11, Population and Housing, this increase would not exceed Southern California Association of Governments' (SCAG's) growth projections for the region and is a small component of the job growth anticipated in the local and regional economies. Additionally, most of these staff positions involve vocational opportunities that are generally found in most communities and may not offer a unique enough opportunity to induce job seekers to relocate to the area for the sole purpose of filling these positions. It is expected that area residents would fill the vast majority of additional staff positions. Similarly, it is anticipated that temporary construction employees would commute from

elsewhere in the region, rather than relocate to the UCLA area for a temporary construction job. Nonetheless, implementation of the proposed Project may result in the creation of indirect and induced jobs. Indirect jobs are those that would be created when the campus purchases goods and services from businesses in the region, and induced jobs are those that are created when wage incomes of those employed in direct and indirect jobs are spent on the purchase of goods and services in the region.

The proposed Project would not result in significant growth inducement as a result of economic expansion or population growth. The addition of population in an area has the potential to increase the amount of spending, thereby stimulating the economic activity of the area. Increased future employment generated by spending can ultimately result in the physical development of space or the need for services to accommodate additional employees to serve the new population. It is the provision of this physical space and its specific location that will determine the magnitude of environmental impacts of the additional economic activity. Although the economic effect can be predicted, the actual environmental implications of this type of economic growth are difficult to predict, since they can be spread throughout the region and beyond.

UCLA's economic impacts are primarily the result of campus purchases of goods and services; payment of taxes and salaries; capital expenditures; and visitor spending, which affects the regional economy of the County and City of Los Angeles and, on a more indirect basis, the State of California. While UCLA contributes to the economic health of Westwood Village, historically, economic activity in Westwood Village, or the periodic fluctuation thereof, has not been determined by growth or decline in campus population. Rather, it has been based upon general economic conditions; fluctuations in consumer confidence and spending; the shifting popularity of Westwood as a destination for shopping and entertainment as compared to other similar areas in Southern California; and other social and economic trends.

4. **Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?** A decision by The Regents of the University of California (UC) to approve the proposed Project is not a precedent-setting action. Projects on campus are considered on a case-by-case basis and would not necessarily mean that other development approvals in the area would follow. Notably, the proposed LRDP Amendment to add approximately 1,500,000 gsf of new development allocation to the Existing LRDP is specifically to address the need for on-campus student housing, and the proposed housing projects would use the added development allocation. With respect to the proposed modification to the 1978 Stipulated Agreement of Compromise and Order, this action is proposed specifically to allow for residential development on the Lot 15 site; the land use restrictions for the remainder of the benign use area would remain in place. Additionally, the increase in staff population associated with the proposed Project does not set any new precedents for growth on campus or in the region.

6.5 MITIGATION MEASURES PROPOSED TO MINIMIZE SIGNIFICANT EFFECTS

Table 1-1 (provided in Section 1.0 of this Draft SEIR) provides a comprehensive identification of the applicable PPs and MMs from the March 2009 LRDP Amendment Final EIR that are included in the proposed Project, the level of significance of proposed Project impacts, and project-specific mitigation measures.

6.6 ALTERNATIVES TO THE PROPOSED PROJECT

Alternatives to the proposed Project are presented in Section 5.0, Alternatives, of this Draft SEIR.

6.7 ENERGY CONSERVATION

Section 21100(b)(3) of the *California Public Resources Code* and Appendix F to the State CEQA Guidelines require a discussion of potential energy impacts of proposed projects. Appendix F states:

> The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:
>
> (1) Decreasing overall per capita energy consumption,
>
> (2) Decreasing reliance on fossil fuels such as coal, natural gas and oil, and
>
> (3) Increasing reliance on renewable energy sources.

Appendix F of the State CEQA Guidelines also identifies that "EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy".

The UC's sustainability program and policy includes all ten campuses and five medical centers, and is further discussed in Section 4.6, Greenhouse Gas Emissions and Section 4.14, Utilities and Service Systems, of this Draft SEIR. The UC's sustainability commitment began in 2003 with The Regents' action that led to the adoption of a Presidential Policy on Green Building Design and Clean Energy Standards in 2004. Since adopting that policy, the University has expanded the scope to include climate protection; sustainable transportation; sustainable building operations for campuses; recycling and waste management; environmentally preferable purchasing; sustainable food services; and sustainable water systems. As with all UC campuses, UCLA is required to implement the UC Sustainable Practices Policy (refer to PP 4.15-1 provided in Section 4.6, Greenhouse Gas Emissions, of this Draft SEIR).

6.7.1 OPERATIONS

Energy Demand

On a campus-wide basis, UCLA has instituted a Green Building program for new construction, renovations, and existing buildings. In addition, over the years, many energy conservation projects have been undertaken and continue to be implemented, including, but not limited to, lighting efficiency upgrades; heating, ventilation, and air conditioning (HVAC) unit efficiency upgrades; retrofitting of plumbing fixtures for water conservation; and installation of building lighting occupancy sensors, among others. The campus shall continue to implement all new development and renovation of existing buildings in accordance with the UC Policy on Sustainable Practices and specifications contained in Title 24 of the *California Code of Regulations* (CCR) and Title 24 Green Building Standards.

Also relevant to campus-wide operations, through the efficient use of electricity on campus, the use of natural gas on campus occurs in an efficient manner, as the Cogeneration Plant on campus is fired by natural gas. In January 1994, the Cogeneration Plant began providing electricity to the UCLA campus in two combustion turbine generators using a combination of methane gas from the nearby Mountaingate Landfill as well as natural gas. The facility simultaneously produces electricity and steam for the campus as well as chilled water for many buildings on the main campus for use in air conditioning and cooling activities. The simultaneous production of electricity and steam greatly increases the campus energy utilization efficiency and improves the capacity and reliability of the campus electrical distribution system. Operation of the facility has reduced the campus' long-term utility expenditures and dependence upon electricity provided by the Los Angeles Department of Water and Power (LADWP). The Cogeneration Plant currently provides

85 percent of the electrical needs of the campus (UCLA 2017). As discussed in Section 4.14, Utilities and Service Systems, of this Draft SEIR, remaining electrical needs are, and would be, supplied by LADWP, including for the proposed Project.

Implementation of the proposed Project would involve the construction of up to 1,715,000 gsf of new development for student housing at 5 identified campus sites to accommodate up to 6,900 undergraduate and graduate student beds. Development of the proposed student housing projects would require demolition of the existing buildings at the Lot 15, Warren Hall, and UNEX sites, totaling approximately 215,000 gsf, resulting in a potential net increase of 1,500,000 gsf of housing on campus. As identified in Section 4.14, Utilities and Service Systems, of this Draft SEIR, the net new electrical demand would be 3.29 million kilowatt-hours per year (kWh/yr), and the net new natural gas demand would be 2,057 million British Thermal Units per year (MMBTU/yr). It should be noted that the buildings to be demolished were constructed between 1958 and 1975; the Ornamental Horticultural buildings on the Lot 15 site were constructed in 1958 and 1975, the Warren Hall building was constructed in 1961, and the UNEX building was constructed in 1971. These buildings to be demolished are not as energy efficient as newer development on campus, or the proposed housing projects.

Leadership in Energy and Environmental Design (LEED™) is a green building rating system that contains prerequisites and credits in five areas, including energy efficiency and conservation of materials and resources. A minimum standard of a LEED "Silver" New Construction (NC) rating has been established for applicable UCLA projects, including the proposed Project. However, the proposed housing developments would be designed in an attempt to surpass this. The proposed housing developments would also comply with California Green Building Standards Code (CALGreen) Tier 2 voluntary measure requirements and would participate in the Savings by Design building performance incentive program administered by public energy utility under the auspices of the California Public Utilities Commission. The design, construction, and operation of the proposed Project would include a series of green building strategies under development, along with mandatory strategies required by CalGreen and UC Policy on Sustainable Practices, to exceed California Building Code Title 24 energy efficiency requirements by 20 percent or greater. The provisions of the UC Sustainable Practices Policy that address energy efficiency and are applicable to the proposed Project are further discussed in Section 4.14, Utilities and Service Systems, of this Draft SEIR.

Transportation

With respect to energy use associated with transportation, as discussed in Section 4.13, Transportation and Traffic, of this Draft SEIR, the proposed Project would provide undergraduate and graduate students on campus. This is consistent with UCLA's objective to continue the transformation of the UCLA campus from a commuter to a residential campus, which reduces vehicle miles traveled and transportation-related energy consumption. Key components of the proposed Project, which minimize vehicular travel and associated fuel consumption include:

- Provision of 6,900 beds for undergraduate and graduate student at five sites on campus, which would reduce the number of commuter students driving to and from the campus and associated average daily traffic and vehicle miles traveled. All five proposed housing sites are in a High Quality Transit Area, and 3 of the housing sites are within Transit Priority Areas (Warren Hall, UNEX and Bradley sites) (within 0.5 mile of a major transit stop) (refer to Figure 4.9-3 in Section 4.9, Land Use and Planning, of this Draft SEIR).
- To discourage vehicular travel, no parking would be provided at the proposed housing sites for students to staff. Parking would only be provided for Americans with Disabilities Act (ADA) compliance, service needs, and drop-off and pick-ups.

- To encourage non-vehicular modes of transportation and reduce vehicular travel, pedestrian and bicycle facility connections would be provided at each site to draw people among residential buildings, community spaces, and the rest of campus. A pedestrian bridge would be constructed to connect the proposed housing development at the Lot 15 site to the street level on De Neve Drive. Bicycle storage and parking areas would also be provided at each site. Alternative modes of transportation are further discussed below.
- Implementation of the University of California, Los Angeles (UCLA) Transportation Demand Management (TDM) program by students and staff, as discussed below.

UCLA has an extensive Transportation Demand Management (TDM) Program, also discussed in Section 4.13 of this Draft SEIR. This TDM program would be available to the students and staff who live or work at the proposed housing sites, and is a key component of meeting UC Policy goals for achieving a sustainable transportation system. UCLA's focus is on increasing the Average Vehicle Ridership (AVR),[1] the number of low- (partial zero-emission vehicles [PZEVs]) or zero-emission vehicles (ZEVs), and the number of fuel efficient/alternative fuel vehicles in the campus fleet. Since its inception in 1984, the UCLA TDM program has grown into a comprehensive program that offers a broad range of services to encourage and assist UCLA commuters in utilizing alternatives to the single-occupancy vehicle, which serves to reduce vehicle trips and their associated energy use. As part of its ongoing TDM Program, UCLA actively provides and promotes vanpools; carpool-matching and parking incentive programs; financial incentives for carpool and vanpool participants; accommodation of the use of other modes of transportation, including walking, bicycles, motorcycles, and scooters; an on-campus car share program; alternative work schedules and telecommuting; annual distribution of the UCLA Commuter's Guide; parking control management; and access restriction to main campus parking facilities for on-campus housing residents. Notably, the proposed housing projects do not provide parking for student residents; only limited parking would be provided as needed for compliance with the Americans with Disabilities Act (ADA), service and delivery vehicles, and pick-ups and drop-offs.

With respect to use of non-vehicular modes of transportation, as discussed in Section 4.13 of this Draft SEIR, the roadways within and around UCLA are served by a variety of bus lines managed by multiple transit operators that include the Los Angeles Transportation Authority (Metro), Santa Monica Big Blue Bus (BBB), Culver City Bus, Los Angeles Department of Transportation (LADOT) Commuter Express, Santa Clarita Transit, and the Antelope Valley Transit Authority. Los Angeles World Airports and Amtrak also operate bus service near the UCLA campus and connect to air and rail facilities, respectively. The Westwood/Rancho Park Light Rail Station is located approximately 2.5 miles south of UCLA and provides additional transfer opportunities to other regional destinations. Metro also has plans to extend the Metro Purple Line subway to Westwood, with a proposed subway station along Wilshire Boulevard at Lot 36. Specific to the proposed housing sites, Metro Bus Lines 2 and 302 operate along Gayley Avenue and there are Metro bus stops adjacent to the Bradley and UNEX sites. Additionally, the LADOT Commuter Express Route 431 stops at the Bradley site, which is a transfer point for Metro Bus Line 2.

UCLA also runs its own bus network (BruinBus), providing service within the campus and point-to-point connections to off-campus housing and amenities. There is a BruinBus stop along the north side of Weyburn Avenue south of the Warren Hall site. This bus stop would be improved as part of the proposed housing project at the Warren Hall site.

With respect to bicycle and pedestrian travel, pedestrian and bicycle access is provided at each of the proposed housing sites from sidewalks along adjacent roadways, on-street bikeways, and/or on-campus pedestrian pathways (such as Bruin Walk). The location of the proposed housing

[1] The AVR is the ratio of employees arriving between 6 AM and 10 AM to the motor vehicles that drive to campus.

projects on campus and in the vicinity of pedestrian, bicycle, and public transit facilities supports UCLA's TDM program and use of non-vehicular modes of transportation. The proposed Project would provide connections through the proposed housing sites to adjacent facilities. As noted above, a pedestrian bridge connection would be provided from the Lot 15 site to the street level on De Neve Drive.

Construction

Project construction would require the use of construction equipment for demolition, grading, and building activities; all off-road construction equipment is assumed to use diesel fuel. Construction also includes the vehicles of construction workers and vendors traveling to and from the proposed housing sites. Fuel energy consumed during construction would be temporary in nature and there are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the region or State.

In summary, the proposed Project would not result in an inefficient, wasteful, or unnecessary consumption of energy.

6.8 REFERENCES

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Appendix A

Notice of Preparation and Comments Received

May 5, 2017

State of California
Office of Planning and Research
1400 Tenth Street, Room 222
Sacramento, California 95814

NOTICE OF PREPARATION OF A DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT AND NOTICE OF SCOPING MEETING

Project Title:	Long Range Development Plan Amendment (2017) and Student Housing Projects
Project Location:	University of California, Los Angeles Campus (various locations at the main campus), Los Angeles, California
Lead Agency:	The Regents of the University of California
County:	Los Angeles

The Regents of the University of California is the Lead Agency and will prepare a Draft Subsequent Environmental Impact Report (Subsequent EIR) tiered from the University of California, Los Angeles (UCLA) 2008 Northwest Housing Infill Project and Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (State Clearinghouse [SCH] No. 2008051121) (LRDP Final EIR), which was certified by The Regents in March 2009. As described in more detail below, the Subsequent EIR will analyze, at a programmatic level, the addition of 1,500,000 gross square feet of new development allocation to the 2002 UCLA LRDP, as amended in 2009, to accommodate up to 6,900 new student beds on five sites. The Subsequent EIR will also analyze, at a project level, the construction of approximately 4,500 beds to meet graduate and undergraduate demand as soon as 2020–2021. The Subsequent EIR will also address modifying use restrictions within a portion of the LRDP's Northwest zone.

Project Description: The proposed amendment to the UCLA Long Range Development Plan adopted by The Regents of the University of California in 2002, as amended in 2009 (hereinafter referred to as the Existing LRDP), will add 1,500,000 gross square feet (gsf) of developable space allocated to student housing at 5 sites on the UCLA main campus (referred to hereafter as the LRDP Amendment (2017)). Located in the community of Westwood in the City of Los Angeles, the UCLA campus is approximately 12 miles northwest of downtown Los Angeles and 6 miles from the Pacific Ocean. The main campus is generally bound by Le Conte Avenue to the south, Gayley Avenue and Veteran Avenue to the west, Sunset Boulevard to the north, and Hilgard Avenue to the east. The Southwest zone, also part of the main campus, is located immediately north of Wilshire Boulevard generally between Gayley Avenue and Veteran Avenue. Figure 1 depicts the regional location and local vicinity of the main campus.

The remaining development allocation in the Existing LRDP is approximately 174,615 gsf. The proposed LRDP Amendment (2017) would retain the remaining 174,615 gsf of development allocation with no change in assigned use. The additional 1,500,000 gsf under the proposed LRDP Amendment (2017) would be designated for student housing.

UCLA currently accommodates approximately 14,300 undergraduate students in on-campus housing and University-owned apartments close to campus. Campus housing options offer students relative affordability compared with housing available in the community. UCLA provides a three-year housing guarantee to all incoming first-year students and a one-year guarantee to incoming transfer students; it has a goal of increasing this guarantee to four years and two years, respectively. UCLA began enrolling 750 more undergraduate students in fall 2016 as part of the University's commitment to enroll more California residents through fall 2020. This increase in enrollment presents challenges when coupled with the increasing demand for campus housing. The current solution is to temporarily add to the number of triple occupancy rooms, which is approaching 80 percent, and defer the goal of achieving an increased housing guarantee.

The campus also provides housing to more than 5,500 graduate students, faculty and staff, and their families. Approximately 3,400 graduate students (24 percent of the graduate population) currently live on campus or in off-campus University-owned housing. For graduate students, UCLA does not currently offer a guarantee beyond spaces allocated for 1,000 students nominated by their departments. The remaining graduate inventory is filled based on lottery applications and is insufficient to provide a guarantee to all incoming students or meet current demand.

The campus has identified a potential to develop up to 6,900 beds, by adding 1,500,000 gsf of development allocation to the LRDP, on 5 campus sites. From this potential capacity, the campus will pursue development of approximately 4,500 beds that could be available as soon as 2020–2021 to partially accommodate the increased enrollment; to increase the housing guarantee for entering first-year students from 3 to 4 years; to increase the guarantee for transfer students from 1 year to 2 years; to reduce the triple occupancy percentage closer to the 60 percent target identified in the *Student Housing Master Plan;* and to meet existing unmet graduate housing demand.

Five housing sites have been identified, which are described below and shown on the map of the UCLA campus provided in Figure 1.

- **Lot 15.** This site is located in the Northwest zone generally west of De Neve Drive, south of the existing Hitch Suites, and north of the existing Saxon Suites. The site currently includes surface Parking Lot 15 and two storage/maintenance buildings; the buildings would be removed and relocated to accommodate development of housing at this site. A 1978 Stipulated Agreement of Compromise and Order (Order) entered by the Los Angeles Superior Court resolving litigation filed by the Westwood Hills Property Owners Association against The Regents of the University of California (The Regents) limits development on Lot 15[1] to uses including, but not limited to, open green space; landscape buffers; pre-existing ornamental horticultural buildings and parking facilities; and low intensity, non-spectator, recreational and athletic spaces. The Order requires the use restriction to remain in effect until "there has been a substantial change of circumstances within the University as to warrant a modification . . .".

[1] The land covered by the Order is bordered by Veteran Avenue on the west side of campus; by Sunset Boulevard to Bellagio Road on the north; by Bellagio Road and De Neve Drive and the line running south to Gayley Avenue from the intersection of De Neve Drive to then existing Lot 13 on the east; and on the south by Gayley Avenue west to Veteran Avenue.

- **Warren Hall.** This site is located in the Southwest zone at 900 Weyburn Place North, west of Weyburn Place and north of Weyburn Avenue. This site is currently developed with Warren Hall, which houses various research facilities, including the Hillblom Islet Research Center. The existing building and surface parking areas would be removed to accommodate development of the proposed housing.
- **University Extension (UNEX).** This site is located in the Bridge zone at 10995 Le Conte Avenue, in the northwest quadrant of the Le Conte Avenue/Gayley Avenue intersection and east of Levering Avenue. This site is currently developed with the UNEX building, which is seismically deficient and would be removed to accommodate development of the proposed housing.
- **Bradley.** This site is located in the Northwest zone and consists of the undeveloped sloped area adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive, south of the Bradley International Hall.
- **Drake Stadium.** This site is located in the Central zone at Drake Stadium, located south of Sunset Boulevard and east of Charles E. Young Drive West. The proposed housing structure would be developed over the existing concourse.

In addition to the proposed LRDP Amendment (2017) and the development of up to 6,900 new student beds at the above-referenced 5 locations, The Regents will consider modifying the Order's use restriction on the Lot 15 site. Design approval may be requested for development of housing on one or more of the five housing sites. The City of Los Angeles may be a Responsible Agency for coordination and compliance for construction activities within City rights-of-way, including staging and utility connections.

Environmental Review and Comment: In compliance with the State and University of California guidelines for implementing the California Environmental Quality Act (CEQA), this Notice of Preparation (NOP) is hereby sent to inform you that UCLA is preparing a tiered Draft Subsequent EIR for the proposed LRDP Amendment (2017) and Housing Projects.

UCLA has determined that an EIR is required and no Initial Study will be prepared (see State CEQA Guidelines, Sections 15060 and 15081). With the exception of agricultural/forestry resources and mineral resources, which do not exist on campus (per the LRDP Final EIR), the proposed Project could have potentially significant impacts for each of the remaining topical environmental issues identified in the environmental checklist included in Appendix G to the State CEQA Guidelines, and these issues will be addressed in the Draft EIR: Aesthetics, Air Quality, Biological Resources, Cultural Resources/Tribal Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Public Services, Recreation, Transportation/Traffic, and Utilities and Services Systems.

As the Lead Agency, we request the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed Project. Responses to this NOP are requested to identify (1) the significant environmental issues, reasonable alternatives, and mitigation measures that should be explored in the Draft Subsequent EIR and (2) whether your agency will be a responsible or trustee agency for the project. Your agency will need to use the Draft Subsequent EIR prepared by UCLA when considering your permit or other approval for the project.

This NOP has been forwarded to the agencies and other groups and individuals listed below, and is also available at:
http://www.capitalprograms.ucla.edu/EnvironmentalReview/ProjectsUnderEnvironmentalReview.

Due to the time limits mandated by State law, responses to this NOP must be sent at the earliest possible date, but not later than 30 days after receipt of this notice. The NOP's 30-day review period will extend from **Friday, May 5, 2017 to Monday June 5, 2017**. Comments regarding the scope of the UCLA LRDP Amendment (2017) and Housing Project Draft EIR must be received no later than 5:00 PM on **June 5, 2017.** They may be mailed or emailed to the following address:

Tracy Dudman, Senior Planner
Campus and Environmental Planning
UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, California 90095-1365
t.dudman@capnet.ucla.edu

Please designate a contact person in your agency and send responses to the address above.

A Public Information and **EIR Scoping Meeting** will be conducted at **UCLA's Carnesale Commons**, located at 251 Charles E. Young Drive West, on **Wednesday, May 31, 2017 at 6:00 PM**. Interested individuals may offer written or oral comments on the proposed scope of the environmental analysis at the public scoping meeting. The Scoping Meeting will be advertised on the UCLA Capital Programs webpage and in direct mailings to interested individuals, organizations, and associations. Courtesy parking will be available at Parking Structure SV.

If you have any questions about the environmental review for the proposed Project, please contact Tracy Dudman at (310) 206-9255.

Sincerely,

Tracy Dudman
Senior Planner
UCLA Capital Programs

Attachments: Document Transmittal Form (Notice of Completion)

cc: City of Los Angeles, Planning Department
Councilmember, 5th District
County of Los Angeles, Regional Planning, Environmental Section
Los Angeles Department of Transportation
Southern California Association of Governments
South Coast Air Quality Management District
Los Angeles Unified School District
Local Associations, Groups, and Individuals
University of California and UCLA Administrators

Northwest Zone

Core Campus Zone

Central Zone

Campus Services Zone

Bridge Zone

Botanical Garden Zone

Health Sciences Zone

Southwest Zone

Project Location

Proposed Housing Sites

1 Lot 15

2 Warren Hall

3 UNEX

4 Bradley

5 Drake Stadium

Source: UCLA 2014

Regional and Local Vicinity Map

Figure 1

UCLA LRDP Amendment (2017) and Student Housing Projects

PSOMAS

(04/19/2017 MMD) R:\Projects\OC\UCL\J0028.08\Graphics\Housing_LRDP\ex_RegLoc_Vicinity.pdf

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STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

Notice of Preparation

May 5, 2017

To: Reviewing Agencies

Re: UCLA Long Range Development Plan Amendment 2017 and Housing Projects
SCH# 2017051024

Attached for your review and comment is the Notice of Preparation (NOP) for the UCLA Long Range Development Plan Amendment 2017 and Housing Projects draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Tracy Dudman
University of California, Los Angeles
1060 Veteran Avenue, CPB
Los Angeles, CA 90095

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2017051024
Project Title UCLA Long Range Development Plan Amendment 2017 and Housing Projects
Lead Agency University of California, Los Angeles

Type NOP Notice of Preparation

Description UCLA proposes to amend the existing long range development plan to add 1,500,000 gross square feet of development space allocated to student housing at 5 sites on the UCLA main campus. Up to 6,900 new student beds would be accommodated by the proposed LRDP amendment.

Lead Agency Contact

Name Tracy Dudman
Agency University of California, Los Angeles
Phone 310-206-9255 **Fax**
email
Address 1060 Veteran Avenue, CPB
City Los Angeles **State** CA **Zip** 90095

Project Location

County Los Angeles
City Los Angeles, City of
Region
Cross Streets
Lat / Long
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways 405
Airports
Railways
Waterways
Schools
Land Use 5 sites at UCLA; parking lot (Lot 15), academic uses, vacant; stadium concourse (Drake Stadium). The UCLA campus, including the proposed housing sites, is designated as public facility in the City of Los Angeles General Plan and Zoning

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Geologic/Seismic; Noise; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Solid Waste; Traffic/Circulation; Water Quality; Vegetation; Landuse; Other Issues

Reviewing Agencies Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 5; Department of General Services; Native American Heritage Commission; California Highway Patrol; Caltrans, District 7; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 4

Date Received 05/05/2017 **Start of Review** 05/05/2017 **End of Review** 06/05/2017

2017051024

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # NA

Project Title: UCLA Long Range Development Plan Amendment (2017) and Housing Projects

Lead Agency: The Board of Regents of the University of California | Contact Person: Tracy Dudman

Mailing Address: 1060 Veteran Avenue | Phone: (310) 206-9255

City: Los Angeles | Zip: 90095 | County: Los Angeles

Project Location: County: Los Angeles | City/Nearest Community: Los Angeles/Westwood

Cross Streets: Five sites on the main campus (see attached map) | Zip Code: 90095

Longitude/Latitude (degrees, minutes and seconds): ____ ° ____ ' ____ " N/ ____ ° ____ ' ____ " W | Total Acres: Approx 11.5

Assessor's Parcel No.: | Section: | Twp: | Range: | Base:

Within 2 Miles: State Hwy. #: Interstate 405 | Waterways:

Airports: | Railways: | Schools: Marymount High Schools, UCLA Lab School, Fairburn Elem. School, and other schools

Document Type:

CEQA: ☒ NOP ☐ Draft EIR | NEPA: ☐ NOI | Other: ☐ Joint Document
☐ Early Cons ☐ Supplement/Subsequent EIR | ☐ EA | ☐ Final Document
☐ Neg Dec (Prior SCH No.) | ☐ Draft EIS | ☐ Other:
☐ Mit Neg Dec Other: | ☐ FONSI

Governor's Office of Planning & Research
05 2017
STATE CLEARINGHOUSE
MAY 05 2017
STATE CLEARINGHOUSE
Governor's Office of Planning & Research

Local Action Type:

☐ General Plan Update ☐ Specific Plan ☐ Rezone ☐ Annexation
☐ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☒ Site Plan ☐ Land Division (subdivision, etc.) ☒ Other: LRDP Amendment

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____ ☐ Transportation: Type ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____ ☐ Mining: Mineral ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____ ☐ Power: Type ____ MW ____
☒ Educational 6,900 student beds ☐ Waste Treatment: Type ____ MGD ____
☐ Recreational ☐ Hazardous Waste: Type ____
☐ Water Facilities: Type ____ MGD ____ ☐ Other: ____

Project Issues Discussed in Document:

☒ Aesthetics/Visual ☐ Fiscal ☒ Recreation/Parks ☒ Vegetation
☐ Agricultural Land ☐ Flood Plain/Flooding ☒ Schools/Universities ☒ Water Quality
☒ Air Quality ☐ Forest Land/Fire Hazard ☐ Septic Systems ☐ Water Supply/Groundwater
☒ Archaeological/Historical ☒ Geologic/Seismic ☒ Sewer Capacity ☐ Wetland/Riparian
☒ Biological Resources ☐ Minerals ☐ Soil Erosion/Compaction/Grading ☐ Growth Inducement
☐ Coastal Zone ☒ Noise ☒ Solid Waste ☒ Land Use
☒ Drainage/Absorption ☐ Population/Housing Balance ☐ Toxic/Hazardous ☐ Cumulative Effects
☐ Economic/Jobs ☒ Public Services/Facilities ☒ Traffic/Circulation ☒ Other: GHG emissions

Present Land Use/Zoning/General Plan Designation:

5 sites at UCLA: parking lot (Lot 15), academic uses (UNEX Building and Warren Hall), vacant (Bradley site); stadium concourse (Drake Stadium). The UCLA campus, including the proposed housing sites, is designated as Public Facility in the City of Los Angeles General Plan and Zoning.

Project Description: *(please use a separate page if necessary)*

UCLA proposes to amend the existing Long Range Development Plan (LRDP) to add 1,500,000 gross square feet of development space allocated to student housing at 5 sites on the UCLA main campus. Up to 6,900 new student beds would be accommodated by the proposed LRDP Amendment.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g., Notice of Preparation or previous draft document) please fill in.

NOP Distribution List

County: Los Angeles **SCH#** 2017051024

sources Agency

Resources Agency
Nadell Gayou

- ☐ **Dept. of Boating & Waterways**
  Denise Peterson
- ☐ **California Coastal Commission**
  Elizabeth A. Fuchs
- ☐ **Colorado River Board**
  Lisa Johansen
- ☐ **Dept. of Conservation**
  Crina Chan
- ☐ **Cal Fire**
  Dan Foster
- ☐ **Central Valley Flood Protection Board**
  James Herota
- ☐ **Office of Historic Preservation**
  Ron Parsons

Dept of Parks & Recreation
Environmental Stewardship Section

- ☐ **S.F. Bay Conservation & Dev't. Comm.**
  Steve Goldbeck
- ☐ **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Fish and Game

- ☐ **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- ☐ **Fish & Wildlife Region 1**
  Curt Babcock
- ☐ **Fish & Wildlife Region 1E**
  Laurie Harnsberger
- ☐ **Fish & Wildlife Region 2**
  Jeff Drongesen
- ☐ **Fish & Wildlife Region 3**
  Craig Weightman
- ☐ **Fish & Wildlife Region 4**
  Julie Vance
- ☐ **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- ☐ **Fish & Wildlife Region 6**
  Tiffany Ellis
  Habitat Conservation Program
- ☐ **Fish & Wildlife Region 6 I/M**
  Heidi Calvert
  Inyo/Mono, Habitat Conservation Program
- ☐ **Dept. of Fish & Wildlife M**
  William Paznokas
  Marine Region

Other Departments

- ☐ **California Department of Education**
  Lesley Taylor
- ☐ **OES (Office of Emergency Services)**
  Monique Wilber
- ☐ **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- ☐ **Dept. of General Services**
  Cathy Buck
  Environmental Services Section
- ☐ **Housing & Comm. Dev.**
  CEQA Coordinator
  Housing Policy Division

Independent Commissions,Boards

- ☐ **Delta Protection Commission**
  Erik Vink
- ☐ **Delta Stewardship Council**
  Kevan Samsam
- ☐ **California Energy Commission**
  Eric Knight
- ☐ **Native American Heritage Comm.**
  Debbie Treadway
- ☐ **Public Utilities Commission**
  Supervisor
- ☐ **Santa Monica Bay Restoration**
  Guangyu Wang
- ☐ **State Lands Commission**
  Jennifer Deleong
- ☐ **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Cal State Transportation Agency CalSTA

- ☐ **Caltrans - Division of Aeronautics**
  Philip Crimmins
- ☐ **Caltrans – Planning HQ LD-IGR**
  Christian Bushong
- ☐ **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects

Dept. of Transportation

- ☐ **Caltrans, District 1**
  Rex Jackman
- ☐ **Caltrans, District 2**
  Marcelino Gonzalez
- ☐ **Caltrans, District 3**
  Eric Federicks – South
  Susan Zanchi - North
- ☐ **Caltrans, District 4**
  Patricia Maurice
- ☐ **Caltrans, District 5**
  Larry Newland
- ☐ **Caltrans, District 6**
  Michael Navarro
- ☐ **Caltrans, District 7**
  Dianna Watson
- ☐ **Caltrans, District 8**
  Mark Roberts
- ☐ **Caltrans, District 9**
  Gayle Rosander
- ☐ **Caltrans, District 10**
  Tom Dumas
- ☐ **Caltrans, District 11**
  Jacob Armstrong
- ☐ **Caltrans, District 12**
  Maureen El Harake

Cal EPA

Air Resources Board

- ☐ **Airport & Freight**
  Jack Wursten
  - ☐ **Transportation Projects**
    Nesamani Kalandiyur
  - ☐ **Industrial/Energy Projects**
    Mike Tollstrup
- ☐ **California Department of Resources, Recycling & Recovery**
  Sue O'Leary
- ☐ **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- ☐ **State Water Resources Control Board**
  Cindy Forbes – Asst Deputy
  Division of Drinking Water
- ☐ **State Water Resources Control Board**
  Div. Drinking Water #_____
- ☐ **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- ☐ **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- ☐ **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- ☐ **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- ☐ **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- ☐ **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- ☐ **RWQCB 3**
  Central Coast Region (3)
- ☐ **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- ☐ **RWQCB 5S**
  Central Valley Region (5)
  - ☐ **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - ☐ **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- ☐ **RWQCB 6**
  Lahontan Region (6)
  - ☐ **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- ☐ **RWQCB 7**
  Colorado River Basin Region (7)
- ☐ **RWQCB 8**
  Santa Ana Region (8)
- ☐ **RWQCB 9**
  San Diego Region (9)

- ☐ **Other** _____
  _____
  _____
- ☐ _____
  Conservancy

Last Updated 4/28/17

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF REGIONAL PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-0067
FAX (213) 897-1337
www.dot.ca.gov

Serious drought!
Making Conservation
a California Way of Life.

June 5, 2017

Tracy Dudman
University of California, Los Angeles
Capital Programs, Environmental Planning
1060 Veteran Avenue
Los Angeles, CA 90095

RE: UCLA Long Range Development Plan
Amendment 2017 and Housing Projects
Notice of Preparation
GTS# LA-2016-00913
SCH# 2017051024

Dear Tracy Dudman:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The project consists of an amendment to an existing long range development plan to add 1,500,000 gross square feet of development space allocated to student housing at 5 sites on the UCLA main campus. Up to 6,900 new student beds would be accommodated by the proposed amendment.

Based on information received in the Notice of Preparation (NOP), Caltrans has the following comments:

Regional and State level policy goals related to sustainable transportation seek to reduce the number of trips made by driving, reduce greenhouse gas emissions, and encourage alternative modes of travel. Caltrans' Strategic Management Plan has set a target of tripling trips made by bicycling, doubling trips made by walking and public transit by 2020. The Strategic Plan also seeks to achieve a 15% reduction in statewide per capita vehicle miles traveled by 2020. Similar ambitious goals are put forward in Caltrans' 2040 Transportation Plan, and the Southern California Association of Governments' Regional Transportation Plan. Statewide legislation such as AB 32 and SB 375, as well as Governor Executive Orders S-3-05 and B-16-12, echo the need to pursue more sustainable development and transportation. These climate change related goals can only be achieved through consistent support from local partners.

Due to UCLA's proximity to I-405, Caltrans would like to see peak hour queuing analyses for nearby on- and off-ramps in the area. We would also like to see an analysis of ADT, AM and PM peak-hour volumes for both the existing and future conditions in the general affected area, including Wilshire Boulevard. Signal studies for nearby on/off-ramps to I-405 should also be included. Existing conditions for any traffic counts should include bicycle and pedestrian traffic.

In light of state legislation SB 743, at this stage the lead agency may choose to proceed with a vehicle miles traveled (VMT) transportation analysis instead of a more traditional level of service (LOS) analysis for the traffic study. However, irrespective of methodology used, any transportation-related impacts should be addressed through appropriate multi-modal mitigation measures to reduce the number of vehicle trips generated by the project and/or per capita VMT reductions. Such measures may include, but are not limited to: installing safe and secure bicycle parking/storage for students and visitors; providing on-site car-sharing services; reducing the amount of parking associated with the project; and/or decoupling student housing costs and parking costs. Measures that promote alternatives to car use are especially opportune as the campus is served by numerous bus lines and will eventually be served by high-frequency subway service (Metro Purple Line).

Please note that existing research on parking suggests that providing cheap and plentiful car parking encourages and enables more driving. UCLA should recognize of the role parking plays in generating car use, and consider alternative measures to promote car-sharing, carpooling, active transportation and public transit. With this in mind, strong consideration should be given to providing safe, pleasant, and convenient on-site bicycle parking and other amenities for non-automobile modes.

As a reminder, any transportation of heavy construction equipment and/or materials requiring use of oversized-transport vehicles on State highways will require a Caltrans transportation permit. Caltrans recommends that large size truck trips be limited to off-peak commute periods. Also, storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Be mindful that the project needs to be designed to discharge clean run-off water. Incorporating permeable pavement, landscaping, and trees to reduce urban water run-off should be considered in the project area.

If you have any questions regarding these comments, please contact project coordinator Severin Martinez, at (213)-897-0067 or severin.martinez@dot.ca.gov and refer to GTS# LA-2017-00913.

Sincerely,

Melanie Bradford

DIANNA WATSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710

Edmund G. Brown Jr., Governor

May 12, 2017

Tracy Dudman
University of California, Los Angeles
1060 Veteran Avenue
Los Angeles, CA 90095

Sent via e-mail: t.dudman@capnet.ucla.edu

RE: SCH# 2017051024; UCLA Long Range Development Plan Amendment 2017 and Housing Projects, Los Angeles County, California

Dear Mr. Dudman:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for Draft Environmental Impact Report for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd. (a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a **separate category of cultural resources**, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (Pub. Resources Code § 21084.2). Please reference California Natural Resources Agency (2016) "Final Text for tribal cultural resources update to Appendix G: Environmental Checklist Form," http://resources.ca.gov/ceqa/docs/ab52/Clean-final-AB-52-App-G-text-Submitted.pdf. Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends **lead agencies consult with all California Native American tribes** that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws**.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a **lead agency** shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
    a. A brief description of the project.
    b. The lead agency contact information.
    c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
    d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A **lead agency** shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
    a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
    a. Alternatives to the project.
    b. Recommended mitigation measures.
    c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
    a. Type of environmental review necessary.
    b. Significance of the tribal cultural resources.
    c. Significance of the project's impacts on tribal cultural resources.
    d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
    a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
    b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

    This process should be documented in the Cultural Resources section of your environmental document.

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires **local governments** to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

Please contact me if you need any additional information at gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

cc: State Clearinghouse

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA USPS AND E-MAIL: May 19, 2017

t.dudman@capnet.ucla.edu
Tracy Dudman, Senior Planner
Campus and Environmental Planning
UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, California 90095-1365

Notice of Preparation of a Draft Subsequent Environmental Impact Report for the Long Range Development Plan Amendment (2017) and Student Housing Projects

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The SCAQMD staff's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the Draft Subsequent Environmental Impact Report (EIR). Please send SCAQMD a copy of the Draft Subsequent EIR upon its completion. Note that copies of the Draft Subsequent EIR that are submitted to the State Clearinghouse are not forwarded to SCAQMD. Please forward a copy of the Draft Subsequent EIR directly to SCAQMD at the address shown in the letterhead. **In addition, please send with the Draft Subsequent EIR all appendices or technical documents related to the air quality, health risk, and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files[1]. These include emission calculation spreadsheets and modeling input and output files (not PDF files). Without all files and supporting documentation, SCAQMD staff will be unable to complete our review of the air quality analyses in a timely manner. Any delays in providing all supporting documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. More recent guidance developed since this Handbook was published is also available on SCAQMD's website at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). SCAQMD staff also recommends that the Lead Agency use the CalEEMod land use emissions software. This software has recently been updated to incorporate up-to-date state and locally approved emission factors and methodologies for estimating pollutant emissions from typical land use development. CalEEMod is the only software model maintained by the California Air Pollution Control Officers Association (CAPCOA) and replaces the now outdated URBEMIS. This model is available free of charge at: www.caleemod.com.

[1] Pursuant to the CEQA Guidelines Section 15174, the information contained in an EIR shall include summarized technical data, maps, plot plans, diagrams, and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public. Placement of highly technical and specialized analysis and data in the body of an EIR should be avoided through inclusion of supporting information and analyses as appendices to the main body of the EIR. Appendices to the EIR may be prepared in volumes separate from the basic EIR document, but shall be readily available for public examination and shall be submitted to all clearinghouses which assist in public review.

Adopted on March 3, 2017, the 2016 Air Quality Management Plan (2016 AQMP) is a regional blueprint for achieving air quality standards and healthful air in the South Coast Air Basin. Built upon the progress in implementing the 2007 and 2012 AQMPs, the 2016 AQMP provides a regional perspective on air quality including the challenge of achieving 45% additional NOx reductions in 2023 and 55% in 2031 that are needed for ozone attainment. The 2016 AQMP is available on SCAQMD's website at: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan.

The SCAQMD staff recognizes that there are many factors Lead Agencies must consider when making local planning and land use decisions. To facilitate stronger collaboration between Lead Agencies and the SCAQMD to reduce community exposure to source-specific and cumulative air pollution impacts, the SCAQMD adopted the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning in 2005. This Guidance Document provides suggested policies that local governments can use in their General Plans or through local planning to prevent or reduce potential air pollution impacts and protect public health. The SCAQMD staff recommends that the Lead Agency review this Guidance Document as a tool when making local planning and land use decisions. This Guidance Document is available on SCAQMD's website at: http://www.aqmd.gov/home/library/documents-support-material/planning-guidance/guidance-document. Additional guidance on siting incompatible land uses (such as placing homes near freeways or other polluting sources) can be found in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Health Perspective*, which can be found at: http://www.arb.ca.gov/ch/handbook.pdf. Guidance[2] on strategies to reduce air pollution exposure near high-volume roadways can be found at: https://www.arb.ca.gov/ch/rd_technical_advisory_final.PDF.

The SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD staff requests that the Lead Agency quantify criteria pollutant emissions and compare the results to the SCAQMD's CEQA regional pollutant emissions significance thresholds to determine air quality impacts. The SCAQMD's CEQA regional pollutant emissions significance thresholds can be found here: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf. In addition to analyzing regional air quality impacts, the SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LSTs can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the Lead Agency perform a localized analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

When specific development is reasonably foreseeable as result of the goals, policies, and guidelines in the proposed project, the Lead Agency should identify any potential adverse air quality impacts and sources pf air pollution that could occur using its best efforts to find out and a good-faith effort at full disclosure in the Draft Subsequent EIR. The degree of specificity will correspond to the degree of specificity involved in the underlying activity which is described in the Draft Subsequent EIR (CEQA Guidelines Section 15146). When quantifying air quality emissions, emissions from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically

[2] In April 2017, ARB published a technical advisory, *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways: Technical Advisory*, to supplement ARB's Air Quality and Land Use Handbook: A Community Health Perspective. This Technical Advisory is intended to provide information on strategies to reduce exposures to traffic emissions near high-volume roadways to assist land use planning and decision-making in order to protect public health and promote equity and environmental justice. Available at: https://www.arb.ca.gov/ch/landuse.htm.

include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, such as sources that generate or attract vehicular trips, should be included in the analysis. Furthermore, for phased projects where there will be an overlap between construction and operation, the air quality impacts from the overlap should be combined and compared to the SCAQMD's regional operational thresholds to determine significance.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*") can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

Mitigation Measures

In the event that the proposed project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize these impacts. Pursuant to CEQA Guidelines Section 15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed. Several resources are available to assist the Lead Agency with identifying potential mitigation measures for the proposed project, including:

- Chapter 11 of the SCAQMD *CEQA Air Quality Handbook*
- SCAQMD's CEQA web pages available here: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies
- SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook for controlling construction-related emissions and Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities
- SCAQMD's Mitigation Monitoring and Reporting Plan (MMRP) for the 2016 AQMP available here (starting on page 86): http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2017/2017-mar3-035.pdf?sfvrsn=5
- CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* available here: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

Alternatives

In the event that the proposed project generates significant adverse air quality and health risks impacts, CEQA requires the consideration and discussion of alternatives to the project or its location which are capable of avoiding or substantially lessening any of the significant effects of the project. The discussion of a reasonable range of potentially feasible alternatives, including a "no project" alternative, is intended to foster informed decision-making and public participation. Pursuant to CEQA Guidelines Section 15126.6(d), the Draft Subsequent EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project.

Permits
In the event that the proposed project requires a permit from SCAQMD, SCAQMD should be identified as a responsible agency for the proposed project. For more information on permits, please visit the SCAQMD webpage at: http://www.aqmd.gov/home/permits. Questions on permits can be directed to the SCAQMD's Engineering and Permitting staff at (909) 396-3385.

Data Sources
SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available at the SCAQMD's webpage (http://www.aqmd.gov).

SCAQMD staff is available to work with the Lead Agency to ensure that project air quality and health risk impacts are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at lsun@aqmd.gov or call me at (909) 396-3308.

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

LS
LAC170505-07
Control Number

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

Metro

June 5, 2017

Tracy Dudman
City of Los Angeles
Department of Capital Programs
1060 Veteran Ave
Los Angeles, CA 90095-1365

RE: Long Range Development Plan Amendment (2017) and Student Housing Projects-Notice of Preparation of a Draft Subsequent Environmental Impact Report and Notice of Scoping Meeting

Dear Ms. Dudman

Thank you for the opportunity to comment on the Notice of Preparation of a Draft Subsequent Environmental Impact Report and Notice of Scoping Meeting for the Long Range Development Plan Amendment (2017) and Student Housing Projects (LRDP) located on 5 sites on the UCLA main campus. This letter conveys recommendations from the Los Angeles County Metropolitan Transportation Authority (Metro) concerning issues that are germane to our agency's statutory responsibility in relation to our facilities and services that may be affected by the proposed project.

Metro is committed to working with stakeholders across the County to support the development of transit oriented communities (TOCs). TOCs are built by considering transit within a broader community and creating vibrant, compact, walkable, and bikeable places centered around transit stations and hubs with the goal of encouraging the use of transit and other alternatives to driving. Metro looks forward to collaborating with local municipalities, developers, and other stakeholders in their land use planning and development efforts, and to find partnerships that support TOCs across Los Angeles County.

Project Description

The proposed amendment to the UCLA Long Range Development Plan adopted by the Regents of the University of California in 2002, and amended in 2009, will add 1,500,000 gross square feet (gsf) of developable space allocated to student housing at five sites on the UCLA main campus. The five sites identified are Lot 15, Warren Hall, University Extension (UNEX) Bradley, and Drake Stadium. In addition to the proposed LRDP Amendment (2017) at the five locations, the Regents will consider modifying the Order's use restriction on the Lot 15 site.

Metro Comments

Bus Ops (adjacent bus stop)

Several Metro bus lines operate within the LRDP area, with bus stops adjacent to Bradley and UNEX sites. Metro Bus Line 2 and 302 operate along Gayley Avenue, along these two bus stops. Metro

recommends that the LRDP include language that informs future development activity within the LRDP area of Metro's notification procedures and considerations for projects located in close proximity to a Metro facility that may impact Metro bus operations.

If you have any questions regarding this response, please contact Elizabeth Carvajal at 213-922-3084 or by email at DevReview@metro.net. Metro looks forward to reviewing the Draft EIR. Please send it to the following address:

Metro Development Review
One Gateway Plaza MS 99-23-4
Los Angeles, CA 90012-2952

Sincerely,

Elizabeth Carvajal
Sr. Manager, Transportation Planning

WHPOA
WESTWOOD HILLS PROPERTY OWNERS ASSOCIATION
INCORPORATED 1958

June 11, 2017

Tracy Dudman, Senior Planner
Campus and Environmental Planning
UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, California 90095-1365
t.dudman@capnet.ucla.edu

RE: Notice of Preparation of a Draft Subsequent Environmental Impact Report Long Range Devleopment Plan Amendment (2017) and Student Housing Projects

Dear Ms. Dudman:

The Westwood Hills Property Owners Association (WHPOA) appreciates this opportunity to comment on the scope of UCLA's Subsequent Environmental Impact Report, Long Range Development Plan Amendment, and Student Housing Projects. As described, the proposal under review would add housing for 6,900 students in 1,500,000 gross square feet of new development distributed among five campus sites. One of those sites is in an area controlled by an agreement (Stipulated Agreement of Compromise and Order Thereon) between the Regents and the Westwood Hills Property Owners Association. According to your NOP document, as part of the project under review, "the Regents will consider modifying the Order's use restriction on the Lot 15 site."

Our Association is concerned by a number of community-wide impacts implied by a project of this magnitude. They include, but are not limited to, the following:

1. **Population increase**: Since this project contemplates an increase in full-time resident student population of more than 40 percent, the DEIR should consider the impact of such increased full-time student residency on campus and community facilities and services, including on roadways, air quality, public services, recreation, open space, and public resources. Traffic analysis should examine changes in daily local trips as well as peak hour regional trips.

2. **Construction scheduling**: Construction of major facilities will impact traffic and circulation on streets and roadways and impair access to emergency services, already challenged in Westwood by everyday vehicular and pedestrian traffic. The DEIR should examine and mitigate impacts of hauling, grading and other construction activities on quality of life in neighboring Westwood areas and on the campus community, including impacts on public and emergency services, ambient noise and air quality.

In addition to these community-wide concerns, The Westwood Hills Property Owners Association directs your attention to these following impacts on Westwood Hills:

1. **Land Use and Planning**: At a minimum, the Draft Environmental Impact Report (DEIR) must acknowledge UCLA's responsibility to WHPOA under the terms of the Stipulated Agreement, paragraph 3 of which states (at page 4), that any determination to modify the Stipulated Agreement "...shall include consideration of conditions within the surrounding community, and such determination would be considered by the Regents only after there has been appropriate consultation with the community...." The DEIR should acknowledge that the Stipulated Agreement cannot be modified via the EIR process, but requires a separate formal process, which was acknowledged by UCLA subsequent to the issuance of the NOP.

2. **Lot 15 Site**: Construction and operation of a large student housing facility on Lot 15 in the Northwest Campus Stipulated Agreement area will directly impact residents of Westwood Hills, an established single-family residential neighborhood located west of Veteran Avenue adjacent to the Stipulated Agreement area. As a consequence of the hilly terrain in the area, many Westwood Hills homes have views into the campus area surrounding Lot 15. These homes, as well as those on Veteran Avenue directly across the street from the Stipulated Agreement area and others in the area, are affected by noise, light spill-over, degraded views, increased traffic, and on-going maintenance and service activities. The Stipulated Agreement was intended to mitigate negative impacts of activity and development in the area.

3. **Stipulated Agreement Area Mitigation**: Since entering into the Stipulated Agreement, WHPOA and UCLA have worked productively to mitigate the impacts of additional development within the area. In all cases, new Stipulated Agreement area development has occurred in consultation with the surrounding community. The DEIR should address and incorporate mitigations in the Stipulated Agreement area regarding access, lighting, noise, group activities, and landscaping.

Subsequent UCLA Planning Documents including the Northwest Campus Development Final Program EIR, February 1989, and the 2008 update, provide additional mitigations for development and operational activities within the area. These additional mitigations should be acknowledged and incorporated into the proposed DEIR. These include but are not limited to, requirements for limited access into the area, tree preservation and replacement, pole-mounted building and area lighting, maintenance of a landscaped berm between the tennis courts and Veteran Avenue, and prohibition of sound amplification and live music in informal recreation areas.

4. **Building Design**: Addition of a large institutional high-rise structure on the Lot 15 site could transform the residential character of the campus in that area and materially degrade the views into the area from adjacent properties. The DEIR should consider the visual compatibility of the proposed structure with the other campus and residential buildings in the area. Visual and aesthetic mitigations provided in the Northwest Campus Development Program Final EIR should be retained, including the stipulation that the

buildings in the Northwest Campus area use UCLA's adopted color palette, which includes earth tones on campus buildings and avoids bright and glossy colors. Mechanical equipment should be enclosed and designed to minimize impacts on adjacent neighborhood areas.

5. **Operational Concerns**: Activities required to service a building housing nearly 2000 students can generate noise at off-hours that spills over into adjacent neighborhoods. UCLA should limit facility construction and maintenance activities, such as garbage pickup and deliveries, to the hours provided by Los Angeles City code for similar activities in nearby residential areas. Building entrances and exits and student outdoor activity spaces should be oriented toward campus.

6. **Alternatives and Site Capacity**: According to information previously provided by UCLA, the current proposal provides housing for 1,700 students in an eight- or nine-story building. The DEIR should consider alternatives that include minimizing the negative impacts by building a smaller facility on the Lot 15 site, and/or relocating the larger building to an alternative site on the Southwest Campus.

The Westwood Hills Property Owners Association appreciates your attention to our concerns.

Sincerely,

Terry A. Tegnazian
President

From: Phillip Jackson
To: Dudman, Tracy
Subject: Comment on New Residential Housing (Lot 15 Area)
Date: Tuesday, May 30, 2017 3:18:00 PM

Tracy -

This email is written in respect to the EIR for new UCLA residential housing proposed in the area of parking lot 15, a location which is to the East of Veteran Avenue.

We have lived at 11110 Cashmere Street for 35 years, which is a 10-15 minute walk from the location in question. I attended UCLA and lived in Hedrick Hall for 2 years. We can see Hedrick Hall from our kitchen window.

We support the new construction, on condition that reasonable steps are taken to provide for student parking, and reasonable height limitations are considered.

Having lived in a UCLA residence Hall, I know the importance of providing adequate residential facilities for students. Otherwise, some students might be discouraged from attending.

UCLA is an important institution, both locally and beyond. I believe that neighbors are obliged to support reasonable use and expansion of UCLA facilities, to meet the needs of the UCLA community.

Thank you for considering my comments.

Phillip Jackson

From: alvin milder <alvinm134@yahoo.com>
Date: June 12, 2017 at 16:45:00 PDT
To: Tracy Dudman <t.dudman@capnet.ucla.edu>
Subject: NOP new dorms (the "Project")
Reply-To: alvin milder <alvinm134@yahoo.com>

Your NOP letter of May 5, 2017, for this Project states:

> "The Regents of the University of California is the Lead Agency and will prepare a Draft Subsequent Environmental Impact Report (Subsequent EIR) tiered from the UCLA 2008 Northwest Housing Infill Project and Long Range Development Plan (LRDP) Amendment Final Environmental Impact Report (State Clearinghouse [SCH] No. 2008051121) (LRDP Final EIR), which was certified by The Regents in March 2009. As described in the link below, the Subsequent EIR will analyze, at a programmatic level, the addition of 1,500,000 gross square feet of new development allocation to the 2002 UCLA LRDP, as amended in 2009, to accommodate up to 6,900 new student beds on five sites. The subsequent EIR will also analyze, at a project level, the construction of approximately 4,500 beds to meet graduate and undergraduate demand as soon as 2020-2021. The Subsequent EIR will also address modifying use restrictions within a portion of the LRDP's Northwest Zone. "
>
> Please explain, in detail, the basis - under CEQA, the CEQA Guidelines and the UC CEQA Handbook - for tiering this Project.

Please also explain - in detail - what is meant by:

> "The Subsequent EIR will also address modifying use restrictions within a portion of the LRDP's Northwest Zone. "

[E.g., what "use restrictions" and what "portion " of the LRDP's Northwest Zone?"]

Very truly yours,

Alvin Milder

From:	jane mintz
To:	Dudman, Tracy
Subject:	Notice of Preparaton of a Draft Subsequent Environmental Impact Report Long Range Development Plan Amendment (2017) and Student Housing Projects
Date:	Sunday, June 11, 2017 7:44:48 PM

Dear Ms. Dudman,

As a member of the Westwood Hills Property Owners Association I feel it is incumbent upon me to voice my concerns regarding the development of the Lot 15 site for the use of approximately 2,000 University Students.

In preparation for a Draft Subsequent Environmental Import Report on the Long Range Development Plan Amendment specific to Lot 15, I feel that there are a number of issues that need to be taken into consideration.

First, there is the negative impact increased full-time student residency on our local facilities and roadways will create; traffic in our neighborhood is already untenable with much of that traffic occurring along Gayley and Montana as well as Veteran Avenue. Construction of major facilities will have an even greater negative impact on our streets, impairing access to emergency services, slowing down traffic both vehicular and pedestrian, increasing noise and endangering our air quality.

Second, due to the hilly terrain in the area of our homes, as well as that of the proposed site for Lot 15, many of these homes will be affected by unwelcome noise and light spills emanating from campus facilities, both of which will serve as distractions detrimental to the health and quality of the lives of our homeowners.

LA City codes that relate to hours for activities such as construction and maintenance, garbage pickup and deliveries should be strictly adhered to so as not to disturb the peace and quiet of the surrounding neighborhood. Equally important in planning, building entrances, exits and student activities should all be facing the main part of the campus rather than towards Veteran Avenue and the homes in Westwood Hills.

It seems to me that proposing the construction of an eight or nine story building so close to a residential neighborhood, in and of itself, is problematical. A structure of that magnitude not only does not seem to fit in this locale, but it also helps to create many of the problems that I have listed. In order to minimize these negative impacts, the construction of a smaller facility would seem more practical. If magnitude of size is a necessity, perhaps another site on the southwest campus could be found.

I am a UCLA graduate, and have lived on one side of the campus or another all of my life. I have watched it grow and flourish to become a major academic institution in this country. I am proud of the progress that it has made, but, at the same time, I feel it is incumbent upon the university to seriously take the concerns of the surrounding community into its planning so that together we can all continue to share in its success.

Respectfully yours,

Jane Mintz Schwab
Westwood Hills

From:	Alan Stamm
To:	Dudman, Tracy
Subject:	Comments re: EIR for proposed student housing construction on East side of Veteran south of Sunset
Date:	Tuesday, May 30, 2017 4:50:32 PM

We have lived on Denslow - south of Sunset and just 'West" of Levering -- for 36 years. We are members of WHPOA.

We are very fond of our neighborhood, but have become progressively less fond of the increasing vehicular traffic on Veteran.

We have no objections to the proposed new construction SO LONG AS IT DOES NOT FURTHER INCREASE TRAFFIC on already-overburdened Veteran.

But I fear that it will significantly increase that traffic (as has been the case with the housing that was put up some years ago on the east side of Veteran south of its intersection with Levering.

We do not think that bigger is also automatically "better". We support higher education. And we support UCLA -- as a wonderful institution and an admirable neighbor. But we also wonder whether it would not make more sense to try to develop other UC campuses that have more room to grow (e.g. Merced? Irvine?) than UCLA has.

Alan Stamm
422 Denslow Ave.

Appendix B

Updated List of Buildings by LRDP Zone

LRDP ENTITLEMENT (2017) & REMAINING ALLOCATION BY ZONE					
LRDP Zone	**2017 Existing & Approved Entitlement**	**Remaining Allocation**	**2017 Existing & Approved Entitlement + Remaining Allocation**	**Proposed LRDP Amendment (2017) Allocation**	**LRDP Amendment (2017) Anticipated Buildout by 2025**
Botanical Garden	19,100	0	19,100		19,100
Bridge	340,932		340,932	256,500	597,432
Campus Services	373,185	0	373,185		373,185
Central	1,494,766	54,615	1,549,381	240,000	1,789,381
Core	7,296,414	110,000	7,406,414		7,406,414
Health Sciences	4,664,437	0	4,664,437		4,664,437
Northwest	3,100,820	0	3,100,820	463,000	3,563,820
Southwest	1,380,353	10,000	1,390,353	540,500	1,930,853
TOTAL	**18,670,007**	**174,615**	**18,844,622**	**1,500,000**	**20,344,622**

LIST OF BUILDINGS			
Zone/Building Status	Building Name	Year	2017 Basic GSF
Botanical Garden			
Existing	PPRG	2002	**19,100**
	2017 Total		**19,100**

LIST OF BUILDINGS			
Zone/Building Status	Building Name	Year	2017 Basic GSF
Bridge Zone			
Existing	Faculty Levering Apartments	1983	**122,390**
	Margan Apartments	1965	**0**
	Ueberroth Building	1982	**64,338**
	University Extension	1971	**93,204**
	2017 Total		**279,932**
Approved/Under Construction			
	Margan Apartments Redevelopment	2016	61,000
	2017 Total		**61,000**

LIST OF BUILDINGS			
Zone/Building Status	Building Name	Year	2017 Basic GSF
Campus Services Zone			
Existing	CSB1	1977	56,965
	Facilities Mangement Bldg	1993	188,412
	Fleet Services Modular	1998	0
	K6 Pkg Kiosk - WW Plaza	1988	167
	Parking Structure 8	1967	0
	Police Station Replacement	2012	20,942
	Strathmore Office Bldg.	2000	89,950
	Environmental Health & Safety	2002	16,749
	2017 Total		**373,185**

LIST OF BUILDINGS			
Zone/Building Status	Building Name	Year	2017 Basic GSF
Central Zone			
Existing	Ackerman Union	1961	221,761
	Acosta Athletic Trng Ctr	1965	32,526
	Acosta Athletic Trng Ctr Addition	2004	33,325
	Ashe Center	1994	32,093
	CRA Ticket Booth	1996	0
	Drake Stadium	1969	12,260
	Equip Storage	1967	3,916
	IM Field Storage	2004	3,600
	K4 Pkg Kiosk - WW/Sunset	1988	100
	Kerckhoff Hall	1930	70,978
	L.A. Tennis Center	1984	27,096
	Luskin Conference Center	2016	260,313
	Men's Gym	1932	102,326
	Morgan Center	1965	70,507
	Parking Structure 6	1980	546
	Pauley Pavilion	1965	204,465
	Pauley Pavilion Addition	2011	56,944
	West Center	1976	30,144
	Wooden Ctr	1983	184,726
	Wooden West	2004	33,025
	Yates Gym Addition	2011	1,938
	2017 Total		**1,382,589**
Approved/Under Construction			
	Football Performance Center		75,177
	Basketball Performance Center		37,000
	2017 Total		**112,177**

LIST OF BUILDINGS			
Zone/Building Status	Building Name	Year	2017 Basic GSF
Core (North)			
Existing	AGSM Collins Exec Edu Ctr	1995	31,311
	AGSM Cornell Hall	1995	53,945
	AGSM Entrepreneurs Hall	1995	72,591
	AGSM Gold Hall	1995	55,344
	AGSM Mullin Commmons	1995	33,957
	AGSM Rosenfled Library	1995	51,046
	Broad Art Center	1965	149,220
	Broad Art Center exp	2005	0
	Bunche Hall	1964	197,945
	Campbell Hall	1954	54,844
	Dodd Hall	1948	78,303
	East Melnitz	1992	25,123
	Fernald Center	1957	9,252
	Fowler Museum	1990	105,854
	GSEIS	1991	29,838
	University Guest House	1984	26,462
	Haines Hall	1929	133,851
	K3 Pkg Kiosk - Wyton	1988	0
	Kaufman Hall	1929	73,553
	Kaufman Hall Theater	2003	11,600
	Law School	1951	275,439
	LuValle Commons	1985	17,866
	MacGowan Hall	1963	134,109
	MacGowan Hall East	1998	2,417
	Melnitz Hall	1967	61,827
	NC Electrical Distribution	1993	2,900
	North Campus Student Ctr	1976	17,628
	Parking Structure 3	1964	694
	Parking Structure 5	1961	478
	Perloff Hall	1952	65,909
	Public Policy	1958	196,160
	Physics & Astronomy	2004	121,452
	Rolfe Hall	1956	73,276
	Royce Hall	1929	181,926
	University Elementary Schl 1	1950	47,303
	University Elementary Schl 2	1993	13,051
	University Residence	1930	10,455
	Young Research Library	1964	309,220
	Core (North) Zone Total		**2,726,149**
Core (South)			
Existing	BH/MS CENS Lab		6,000
	Boelter Hall	1959	373,904
	Bombshelter	1968	0
	Boelter Hall Creativity Center	2011	4,096
	Botanical Garden Pavilion	2017	2,296
	Botany	1959	37,351

LIST OF BUILDINGS			
Zone/Building Status	Building Name	Year	2017 Basic GSF
	Boyer Hall	1976	133,042
	Bus Terminal	1937	72
	Campbell Hall AAP	2016	2,036
	Campus Corner	1957	0
	CNSI-CoS	2002	188,000
	Engineering Unit A	1950	0
	Engineering Unit B	1950	0
	Engineering 5	2006	100,000
	Engineering 4	1990	294,124
	Engineering 6 Phase 1	2012	60,629
	Faculty Center	1959	30,573
	Franz Hall	1940	238,054
	Geology	1952	172,430
	Gonda Center	1998	125,202
	Hershey Hall	1931	80,699
	Hershey Hall addition	2007	-40,000
	Nueroscience Research	2004	133,000
	Biomedical Sciences Research	2007	133,000
	IPAM	1976	16,459
	K2 Pkg Kiosk - Westholme	1988	100
	Kinsey Hall	1929	125,077
	Knudsen Hall	1963	160,811
	Lath House	1952	0
	La Kretz	2004	24,000
	Life Sciences	1954	219,327
	Life Sciences Auditorium	2002	-11,000
	Luck Research Center	2005	95,000
	MacDonald Lab	1991	144,611
	Math Science	1957	224,078
	Molecular Science	1993	150,324
	Moore Hall	1930	88,505
	MSB Magnet Lab		1,300
	Murphy Hall	1937	220,188
	Nuclear Reactor	1960	6,038
	Ostin Music Center	2012	21,710
	Parking Structure 2	1969	1,052
	Parking Structure 9	1966	5,371
	Plant Greenhouse	1989	0
	Plant Physiology	1950	0
	Powell Library	1930	166,846
	Schoenberg Hall	1955	122,552
	Slichter Hall	1965	62,557
	South Campus Student Center	2010	13,238
	Terasaki Life Science	2010	185,000
	Young Hall	1952	297,589
	Core (South) Zone Subtotal		**4,415,241**
	Core (North) Zone Subtotal		**2,726,149**

LIST OF BUILDINGS			
Zone/Building Status	Building Name	Year	2017 Basic GSF
	2017 Total Core Zone		**7,141,390**
Approved/Under Construction			
	Engineering VI Phase 2		93,024
	Anderson Addition		62,000
	2017 Total		**155,024**

LIST OF BUILDINGS			
Zone/Building Status	Building Name	Year	2017 Basic GSF
Health Sciences			
Existing	700 WW Plaza	1979	29,483
	Brain Mapping	1996	13,348
	Brain Research Institute	1961	86,739
	Center for Health Sciences	1954	1,182,660
	Clinical Research	1954	24,338
	Cyclotron	1971	5,948
	Dentistry	1966	204,373
	Doris Stein Eye Research Inst	1989	74,621
	Factor Health Sciences Bldg	1981	200,657
	Geffen Hall	2017	99,177
	Jules Stein Institute	1967	86,879
	KI Pkg Kiosk - Tiverton	1988	0
	K7 Pkg Kiosk - Stein Plaza	1990	100
	Marion Davies	1962	69,525
	Med Plaza 100	1990	133,534
	Med Plaza 200	1990	364,898
	Med Plaza 300	1990	103,897
	Neuropsychiatric Institute (NPI)	1961	291,078
	Parking Structure CHS	1977	90,569
	Parking Structure 1	1989	3,827
	Parking Structure E	1967	27,252
	Public Health	1968	148,930
	Reed Neurological Research	1970	76,221
	RR/UCLA MC	2008	1,104,764
	Semel / NPI (one-story wing)	1969	0
	Vivarium	1954	131,364
	Wasserman	2014	110,255
	2017 Total		**4,664,437**

LIST OF BUILDINGS			
Zone/Building Status	Building Name	Year	2017 Basic GSF
Northwest Zone			
Existing	Bradley Hall	1997	46,907
	Canyon Point	1991	107,419
	Canyon Recreation Ctr	1965	12,030
	Child Care A	1987	2,160
	Child Care B	1987	3,168
	Child Care C	1987	2,496
	Courtside	1992	91,917
	Covel Commons	1992	130,095
	CRA Modular Unit	1999	2,272
	Delta Terrace	2012	1,210
	De Neve Podium (A & B)	2002	177,785
	De Neve C	2000	42,512
	De Neve D	2000	42,519
	De Neve E	2000	56,693
	De Neve F	2000	43,027
	Delta Terrace	1991	131,118
	Dykstra Hall	1959	163,262
	Easton Field	1997	1,854
	Hedrick Hall	1964	198,485
	Hitch Commons	2012	4,700
	Hitch RS-A	1981	21,603
	Hitch RS-B	1981	23,721
	Hitch RS-C	1981	10,282
	Hitch RS-D	1981	15,236
	Housing Administration	1982	0
	Krieger Childcare	2004	10,000
	NW Auditorium	1992	9,584
	NW Housing (Sproul Landing, Sproul Cove, Holly, Gardenia, Ca	2010	503,175
	NW Housing (Hedrick, Rieber Vista, Rieber Terrace)	2003	535,000
	Ornamental Horticulture J	1958	4,800
	Ornamental Horticulture M	1975	7,201
	Residential Life Bldg	1992	0

LIST OF BUILDINGS			
Zone/Building Status	Building Name	Year	2017 Basic GSF
	Rieber Hall	1963	199,076
	RS Srv Bldg N (Hitch Commons)	1981	0
	RS Srv Bldg S (Saxon Commons)	1981	0
	Saxon Commons	2013	5,700
	Saxon RS-E	1981	7,586
	Saxon RS-F	1981	18,044
	Saxon RS-G	1981	18,045
	Saxon RS-H	1981	12,818
	Saxon RS-J	1981	12,701
	Saxon RS-K	1981	12,971
	Spieker Aquatic Center	2009	6,000
	Sproul Hall	1960	174,478
	SRLF	1987	228,147
	Sunset Court	1988	3,023
	2017 Total		**3,100,820**

LIST OF BUILDINGS			
Zone/Building Status	Building Name	Year	2017 Basic GSF
Southwest Zone			
Existing	Capital Programs	1989	29,564
	K32 Pkg Kiosk - Gayley	1988	100
	K32 Pkg Kiosk - Veteran	1989	100
	Parking Structure 32	1986	96
	Rehabilitation Center	1965	142,566
	Science & Technology Research	1998	49,512
	Taper Ctr 1	1984	0
	Taper Ctr 2	1984	0
	Warren Hall	1961	102,205
	West Steam Plant	1965	5,925
	West Medical Bldg	1988	27,229
	SW Campus Staging (Geffen Academy)	2001	75,000
	SW Campus Modulars (Geffen Academy)	2002	25,920
	Transit Services Maintenance	2003	3,456
	SW Housing Ph 1 (Weyburn Terrace Ph 1)	2005	638,500
	Weyburn Terrace Ph 2	2010	251,776
	Weyburn Commons	2010	21,204
	Warren Hall - Hillblom Center	2005	7,200
	2017 Total		**1,380,353**

Appendix C

Air Quality/GHG Emissions Model Output

UCLA LRDP Amendment & Student Housing - L15,UNEX,Warr

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	353.00	Dwelling Unit	1.70	353,000.00	1800
Apartments High Rise	650.00	Dwelling Unit	3.90	650,000.00	2350
Apartments High Rise	350.00	Dwelling Unit	1.00	350,000.00	1350

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - OpYear 2021

Land Use - L15-353 du;War 650 du; UNEX 350 du; all data from PD

Construction Phase - Const schedule per PD. One month assumed for all paving

Off-road Equipment - 3 sites grading

Off-road Equipment -

Off-road Equipment - 2 sites

Off-road Equipment - L15-UNEX 2 sites double default; no gen-site power; add drill rigs

Off-road Equipment - Concurrent utilities

Off-road Equipment - x

Off-road Equipment - War no gen; add drill rig

Off-road Equipment - 3 sites concurrent

Off-road Equipment - x

Off-road Equipment - Const equip per UCLA

Trips and VMT - Haul Truck trips per pD; Worker-vendor per appx A

Demolition -

Grading -

Architectural Coating - No exterior coating. Coating VOC calculated manually.

Vehicle Trips - No mobile emissions

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No woodstoves or fireplaces

Area Coating - No exterior paint
Reactivity adjusted VOC=25 g/L per UCLA reqts

Energy Use - Energy is default

Water And Wastewater - Water data from WSA; no change in landscape H2O

Construction Off-road Equipment Mitigation - All diesel const Tier3

Area Mitigation - Reactivity adjusted VOC

Energy Mitigation - 20% better than 2016 code = 42.4% better than 2013 baseline

Waste Mitigation - 70% waste reduction per current UCLA practice

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Emergency generators 0.5 hours/day, once/month

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	913,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	913,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,739,825.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,739,825.00	0.00

tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblAreaCoating	Area_EF_Residential_Interior	50	25
tblAreaCoating	Area_Residential_Exterior	913275	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	20.00	87.00
tblConstructionPhase	NumDays	230.00	630.00
tblConstructionPhase	NumDays	230.00	761.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	23.00
tblFireplaces	NumberGas	1,150.05	0.00
tblFireplaces	NumberNoFireplace	135.30	1,353.00
tblFireplaces	NumberWood	67.65	0.00
tblGrading	AcresOfGrading	22.00	64.50
tblGrading	MaterialExported	0.00	43,000.00
tblGrading	MaterialImported	0.00	1,300.00
tblLandUse	LotAcreage	5.65	1.00
tblLandUse	LotAcreage	5.69	1.70
tblLandUse	LotAcreage	10.48	3.90
tblLandUse	Population	1,001.00	1,350.00
tblLandUse	Population	1,010.00	1,800.00
tblLandUse	Population	1,859.00	2,350.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	OperationalYear	2018	2021
tblTripsAndVMT	HaulingTripNumber	875.00	1,312.00
tblTripsAndVMT	HaulingTripNumber	1,568.00	6,936.00
tblTripsAndVMT	HaulingTripNumber	5,538.00	4,280.00
tblTripsAndVMT	VendorTripNumber	145.00	75.00
tblTripsAndVMT	VendorTripNumber	145.00	69.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	33.00	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	45.00
tblTripsAndVMT	WorkerTripNumber	974.00	506.00
tblTripsAndVMT	WorkerTripNumber	974.00	468.00
tblVehicleTrips	ST_TR	4.98	0.00
tblVehicleTrips	SU_TR	3.65	0.00
tblVehicleTrips	WD_TR	4.20	0.00
tblWater	IndoorWaterUseRate	88,153,396.67	120,693,090.00
tblWater	OutdoorWaterUseRate	55,574,967.46	0.00
tblWoodstoves	NumberCatalytic	67.65	0.00
tblWoodstoves	NumberNoncatalytic	67.65	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	13.5247	138.3965	94.6470	0.2651	17.6064	5.0153	22.6217	6.1233	4.6459	10.7692			27,073.1758	3.9988	0.0000	27,173.1459
2019	13.5411	119.2302	102.2339	0.2615	17.3721	4.3975	21.7697	6.0658	4.0746	10.1404			26,569.1236	3.9434	0.0000	26,667.7083
2020	11.4036	75.2131	88.3756	0.2303	11.8089	3.1931	15.0020	3.1527	2.9613	6.1140			22,844.6696	3.1352	0.0000	22,923.0486
2021	13.5508	87.7664	113.7398	0.2844	14.1690	3.8042	17.9732	3.7789	3.5489	7.3279			28,116.8525	3.9437	0.0000	28,215.4440
2022	1.4187	4.3303	11.4502	0.0282	2.1796	0.2350	2.4146	0.5781	0.2336	0.8117			2,767.9386	0.1044	0.0000	2,770.5489
Maximum	**13.5508**	**138.3965**	**113.7398**	**0.2844**	**17.6064**	**5.0153**	**22.6217**	**6.1233**	**4.6459**	**10.7692**			**28,116.8525**	**3.9988**	**0.0000**	**28,215.4440**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	7.2812	94.1533	101.0809	0.2651	13.3766	3.0020	16.3785	4.2009	2.9894	7.1903			27,073.1758	3.9988	0.0000	27,173.1459
2019	8.5412	91.6548	109.5363	0.2615	13.1423	3.0517	16.1224	4.1434	3.0395	7.1119			26,569.1236	3.9434	0.0000	26,667.7083
2020	7.7537	64.3801	98.2382	0.2303	11.8089	2.6936	14.5025	3.1527	2.6833	5.8360			22,844.6696	3.1352	0.0000	22,923.0486
2021	9.1510	80.2657	127.0794	0.2844	14.1690	3.6559	17.8249	3.7789	3.6462	7.4251			28,116.8525	3.9437	0.0000	28,215.4439

2022	1.0318	4.1930	11.5004	0.0282	2.1796	0.2706	2.4503	0.5781	0.2693	0.8473			2,767.9386	0.1044	0.0000	2,770.5489
Maximum	**9.1510**	**94.1533**	**127.0794**	**0.2844**	**14.1690**	**3.6559**	**17.8249**	**4.2009**	**3.6462**	**7.4251**			**28,116.8525**	**3.9988**	**0.0000**	**28,215.4439**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**36.83**	**21.25**	**-9.01**	**0.00**	**13.40**	**23.86**	**15.67**	**19.52**	**18.34**	**19.20**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.0486	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948	0.0000	205.8607
Energy	0.4461	3.8124	1.6223	0.0243		0.3082	0.3082		0.3082	0.3082			4,866.8359	0.0933	0.0892	4,895.7570
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	2.1744	8.8294	5.5443	0.0105		0.3199	0.3199		0.3199	0.3199			1,112.3562	0.1560		1,116.2550
Total	**33.6692**	**13.9331**	**119.0333**	**0.0407**	**0.0000**	**1.2447**	**1.2447**	**0.0000**	**1.2447**	**1.2447**			**6,180.1834**	**0.4440**	**0.0892**	**6,217.8727**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.0486	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948	0.0000	205.8607

Energy	0.3389	2.8957	1.2322	0.0185		0.2341	0.2341		0.2341	0.2341			3,696.5801	0.0709	0.0678	3,718.5470
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	2.1744	8.8294	5.5443	0.0105		0.3199	0.3199		0.3199	0.3199			1,112.3562	0.1560		1,116.2550
Total	**33.5619**	**13.0164**	**118.6433**	**0.0348**	**0.0000**	**1.1706**	**1.1706**	**0.0000**	**1.1706**	**1.1706**			**5,009.9276**	**0.4216**	**0.0678**	**5,040.6627**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.32**	**6.58**	**0.33**	**14.38**	**0.00**	**5.95**	**5.95**	**0.00**	**5.95**	**5.95**	**0.00**	**0.00**	**18.94**	**5.05**	**24.05**	**18.93**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	UNEX Demolition	Demolition	8/1/2018	9/30/2018	5	43	
2	Warr Abate-Demo/L15 demo-grad/LIN grad	Demolition	10/1/2018	11/30/2018	5	45	
3	Warren Grading	Grading	12/1/2018	1/31/2019	5	44	
4	Sewer - utilities	Trenching	12/1/2018	5/31/2019	5	130	
5	L15-UNEX Building Construction	Building Construction	12/1/2018	4/30/2021	5	630	
6	War Building	Building Construction	2/1/2019	12/31/2021	5	761	
7	L15-UNEX Architectural Coating	Architectural Coating	2/1/2021	5/31/2021	5	86	
8	All paving	Paving	3/1/2021	3/31/2021	5	23	
9	Warren Architectural Coating	Architectural Coating	10/1/2021	1/31/2022	5	87	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
UNEX Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
UNEX Demolition	Excavators	3	8.00	158	0.38
UNEX Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Warr Abate-Demo/L15 demo-grad/UN grad	Concrete/Industrial Saws	2	8.00	81	0.73
Warr Abate-Demo/L15 demo-grad/UN grad	Excavators	5	8.00	158	0.38
Warr Abate-Demo/L15 demo-grad/UN grad	Graders	2	8.00	187	0.41
Warr Abate-Demo/L15 demo-grad/UN grad	Rubber Tired Dozers	4	8.00	247	0.40
Warren Grading	Excavators	2	8.00	158	0.38
Warren Grading	Graders	1	8.00	187	0.41
Warren Grading	Rubber Tired Dozers	1	8.00	247	0.40
Warren Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Sewer - utilities	Signal Boards	3	16.00	6	0.82
Sewer - utilities	Tractors/Loaders/Backhoes	3	7.00	97	0.37
L15-UNEX Building Construction	Bore/Drill Rigs	2	7.00	221	0.50
L15-UNEX Building Construction	Cranes	2	7.00	231	0.29
L15-UNEX Building Construction	Forklifts	6	8.00	89	0.20
L15-UNEX Building Construction	Generator Sets	0	8.00	84	0.74
L15-UNEX Building Construction	Tractors/Loaders/Backhoes	6	7.00	97	0.37
L15-UNEX Building Construction	Welders	2	8.00	46	0.45
War Building	Bore/Drill Rigs	1	7.00	221	0.50
War Building	Cranes	1	7.00	231	0.29
War Building	Forklifts	3	8.00	89	0.20
War Building	Generator Sets	0	8.00	84	0.74
War Building	Tractors/Loaders/Backhoes	3	7.00	97	0.37
War Building	Welders	1	8.00	46	0.45
L15-UNEX Architectural Coating	Air Compressors	4	6.00	78	0.48
All paving	Pavers	2	8.00	130	0.42
All paving	Paving Equipment	2	8.00	132	0.36

All paving	Rollers	2	8.00	80	0.38
Warren Architectural Coating	Air Compressors	2	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
UNEX Demolition	6	15.00	0.00	1,312.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warr Abate-Demo/L15 demo-grad/UN grad	13	25.00	0.00	6,936.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warren Grading	6	45.00	0.00	4,280.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Sewer - utilities	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Building Construction	18	506.00	75.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
War Building	9	468.00	69.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Architectural Coating	4	195.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
All paving	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warren Architectural Coating	2	195.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 UNEX Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.4047	0.0000	4.4047	0.6669	0.0000	0.6669			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048			3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**4.4047**	**1.9386**	**6.3433**	**0.6669**	**1.8048**	**2.4717**			**3,871.7665**	**1.0667**		**3,898.4344**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3105	9.9922	2.1820	0.0243	0.5334	0.0382	0.5717	0.1462	0.0366	0.1828			2,626.9388	0.1911		2,631.7162
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			177.0864	6.6600e-003		177.2530
Total	**0.4022**	**10.0615**	**2.9279**	**0.0261**	**0.7011**	**0.0397**	**0.7408**	**0.1907**	**0.0380**	**0.2286**			**2,804.0252**	**0.1978**		**2,808.9692**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9821	0.0000	1.9821	0.3001	0.0000	0.3001			0.0000			0.0000
Off-Road	0.9246	18.3130	24.6739	0.0388		0.8627	0.8627		0.8627	0.8627			3,871.7665	1.0667		3,898.4344
Total	**0.9246**	**18.3130**	**24.6739**	**0.0388**	**1.9821**	**0.8627**	**2.8448**	**0.3001**	**0.8627**	**1.1628**			**3,871.7665**	**1.0667**		**3,898.4344**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3105	9.9922	2.1820	0.0243	0.5334	0.0382	0.5717	0.1462	0.0366	0.1828			2,626.9388	0.1911		2,631.7162
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			177.0864	6.6600e-003		177.2530
Total	**0.4022**	**10.0615**	**2.9279**	**0.0261**	**0.7011**	**0.0397**	**0.7408**	**0.1907**	**0.0380**	**0.2286**			**2,804.0252**	**0.1978**		**2,808.9692**

3.3 Warr Abate-Demo/L15 demo-grad/UN grad - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.5424	0.0000	7.5424	1.1420	0.0000	1.1420			0.0000			0.0000
Off-Road	8.1882	87.8041	45.1618	0.0858		4.1904	4.1904		3.8979	3.8979			8,563.8186	2.3888		8,623.5385
Total	**8.1882**	**87.8041**	**45.1618**	**0.0858**	**7.5424**	**4.1904**	**11.7328**	**1.1420**	**3.8979**	**5.0398**			**8,563.8186**	**2.3888**		**8,623.5385**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5686	50.4770	11.0224	0.1228	2.6947	0.1931	2.8878	0.7387	0.1847	0.9234			13,270.3122	0.9654		13,294.4460
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1529	0.1154	1.2432	2.9700e-003	0.2794	2.4900e-003	0.2819	0.0741	2.3000e-003	0.0764			295.1440	0.0111		295.4217
Total	**1.7214**	**50.5924**	**12.2656**	**0.1258**	**2.9742**	**0.1956**	**3.1698**	**0.8128**	**0.1870**	**0.9998**			**13,565.4562**	**0.9765**		**13,589.8676**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3941	0.0000	3.3941	0.5139	0.0000	0.5139			0.0000			0.0000
Off-Road	2.0466	40.4435	52.4613	0.0858		1.8448	1.8448		1.8448	1.8448			8,563.8186	2.3888		8,623.5385
Total	**2.0466**	**40.4435**	**52.4613**	**0.0858**	**3.3941**	**1.8448**	**5.2389**	**0.5139**	**1.8448**	**2.3587**			**8,563.8186**	**2.3888**		**8,623.5385**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5686	50.4770	11.0224	0.1228	2.6947	0.1931	2.8878	0.7387	0.1847	0.9234			13,270.3122	0.9654		13,294.4460
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1529	0.1154	1.2432	2.9700e-003	0.2794	2.4900e-003	0.2819	0.0741	2.3000e-003	0.0764			295.1440	0.0111		295.4217
Total	**1.7214**	**50.5924**	**12.2656**	**0.1258**	**2.9742**	**0.1956**	**3.1698**	**0.8128**	**0.1870**	**0.9998**			**13,565.4562**	**0.9765**		**13,589.8676**

3.4 Warren Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6905	0.0000	7.6905	3.4953	0.0000	3.4953			0.0000			0.0000
Off-Road	2.7963	31.1387	17.5159	0.0317		1.5152	1.5152		1.3940	1.3940			3,194.8307	0.9946		3,219.6956
Total	**2.7963**	**31.1387**	**17.5159**	**0.0317**	**7.6905**	**1.5152**	**9.2057**	**3.4953**	**1.3940**	**4.8893**			**3,194.8307**	**0.9946**		**3,219.6956**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9899	31.8557	6.9562	0.0775	3.1092	0.1219	3.2310	0.8119	0.1166	0.9285			8,374.8235	0.6092		8,390.0542
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2752	0.2078	2.2377	5.3400e-003	0.5030	4.4800e-003	0.5075	0.1334	4.1300e-003	0.1375			531.2592	0.0200		531.7590
Total	**1.2651**	**32.0635**	**9.1939**	**0.0829**	**3.6122**	**0.1263**	**3.7385**	**0.9453**	**0.1207**	**1.0660**			**8,906.0827**	**0.6292**		**8,921.8132**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4607	0.0000	3.4607	1.5729	0.0000	1.5729			0.0000			0.0000
Off-Road	0.7774	15.5621	20.5666	0.0317		0.7526	0.7526		0.7526	0.7526			3,194.8307	0.9946		3,219.6956
Total	**0.7774**	**15.5621**	**20.5666**	**0.0317**	**3.4607**	**0.7526**	**4.2134**	**1.5729**	**0.7526**	**2.3255**			**3,194.8307**	**0.9946**		**3,219.6956**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9899	31.8557	6.9562	0.0775	3.1092	0.1219	3.2310	0.8119	0.1166	0.9285			8,374.8235	0.6092		8,390.0542
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2752	0.2078	2.2377	5.3400e-003	0.5030	4.4800e-003	0.5075	0.1334	4.1300e-003	0.1375			531.2592	0.0200		531.7590
Total	**1.2651**	**32.0635**	**9.1939**	**0.0829**	**3.6122**	**0.1263**	**3.7385**	**0.9453**	**0.1207**	**1.0660**			**8,906.0827**	**0.6292**		**8,921.8132**

3.4 Warren Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6905	0.0000	7.6905	3.4953	0.0000	3.4953			0.0000			0.0000
Off-Road	2.6084	28.6925	17.2539	0.0317		1.3707	1.3707		1.2610	1.2610			3,140.3905	0.9936		3,165.2302
Total	**2.6084**	**28.6925**	**17.2539**	**0.0317**	**7.6905**	**1.3707**	**9.0612**	**3.4953**	**1.2610**	**4.7563**			**3,140.3905**	**0.9936**		**3,165.2302**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9370	30.1905	6.7814	0.0764	2.8749	0.1114	2.9863	0.7544	0.1066	0.8610			8,266.7196	0.6012		8,281.7499
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2492	0.1830	1.9911	5.1600e-003	0.5030	4.3400e-003	0.5073	0.1334	4.0000e-003	0.1374			513.9589	0.0177		514.4009
Total	**1.1862**	**30.3735**	**8.7726**	**0.0816**	**3.3779**	**0.1157**	**3.4936**	**0.8878**	**0.1106**	**0.9983**			**8,780.6785**	**0.6189**		**8,796.1508**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4607	0.0000	3.4607	1.5729	0.0000	1.5729			0.0000			0.0000
Off-Road	0.7774	15.5621	20.5666	0.0317		0.7526	0.7526		0.7526	0.7526			3,140.3905	0.9936		3,165.2302
Total	**0.7774**	**15.5621**	**20.5666**	**0.0317**	**3.4607**	**0.7526**	**4.2134**	**1.5729**	**0.7526**	**2.3255**			**3,140.3905**	**0.9936**		**3,165.2302**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9370	30.1905	6.7814	0.0764	2.8749	0.1114	2.9863	0.7544	0.1066	0.8610			8,266.7196	0.6012		8,281.7499
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2492	0.1830	1.9911	5.1600e-003	0.5030	4.3400e-003	0.5073	0.1334	4.0000e-003	0.1374			513.9589	0.0177		514.4009
Total	**1.1862**	**30.3735**	**8.7726**	**0.0816**	**3.3779**	**0.1157**	**3.4936**	**0.8878**	**0.1106**	**0.9983**			**8,780.6785**	**0.6189**		**8,796.1508**

3.5 Sewer - utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0427	9.0595	7.9400	0.0123		0.5729	0.5729		0.5337	0.5337			1,116.9182	0.2863		1,124.0761
Total	**1.0427**	**9.0595**	**7.9400**	**0.0123**		**0.5729**	**0.5729**		**0.5337**	**0.5337**			**1,116.9182**	**0.2863**		**1,124.0761**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			177.0864	6.6600e-003		177.2530
Total	**0.0917**	**0.0693**	**0.7459**	**1.7800e-003**	**0.1677**	**1.4900e-003**	**0.1692**	**0.0445**	**1.3800e-003**	**0.0458**			**177.0864**	**6.6600e-003**		**177.2530**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1994	4.5528	6.1479	0.0123		0.3190	0.3190		0.3190	0.3190			1,116.9182	0.2863		1,124.0761
Total	**0.1994**	**4.5528**	**6.1479**	**0.0123**		**0.3190**	**0.3190**		**0.3190**	**0.3190**			**1,116.9182**	**0.2863**		**1,124.0761**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			177.0864	6.6600e-003		177.2530
Total	**0.0917**	**0.0693**	**0.7459**	**1.7800e-003**	**0.1677**	**1.4900e-003**	**0.1692**	**0.0445**	**1.3800e-003**	**0.0458**			**177.0864**	**6.6600e-003**		**177.2530**

3.5 Sewer - utilities - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9553	8.2921	7.8512	0.0123		0.4934	0.4934		0.4607	0.4607			1,103.1787	0.2861		1,110.3321
Total	**0.9553**	**8.2921**	**7.8512**	**0.0123**		**0.4934**	**0.4934**		**0.4607**	**0.4607**			**1,103.1787**	**0.2861**		**1,110.3321**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458			171.3196	5.8900e-003		171.4670
Total	**0.0831**	**0.0610**	**0.6637**	**1.7200e-003**	**0.1677**	**1.4500e-003**	**0.1691**	**0.0445**	**1.3300e-003**	**0.0458**			**171.3196**	**5.8900e-003**		**171.4670**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1994	4.5528	6.1479	0.0123		0.3190	0.3190		0.3190	0.3190			1,103.1787	0.2861		1,110.3321
Total	**0.1994**	**4.5528**	**6.1479**	**0.0123**		**0.3190**	**0.3190**		**0.3190**	**0.3190**			**1,103.1787**	**0.2861**		**1,110.3321**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458			171.3196	5.8900e-003		171.4670
Total	**0.0831**	**0.0610**	**0.6637**	**1.7200e-003**	**0.1677**	**1.4500e-003**	**0.1691**	**0.0445**	**1.3300e-003**	**0.0458**			**171.3196**	**5.8900e-003**		**171.4670**

3.6 L15-UNEX Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.8753	45.8965	31.3269	0.0571		2.6832	2.6832		2.4867	2.4867			5,648.4196	1.7088		5,691.1405
Total	**4.8753**	**45.8965**	**31.3269**	**0.0571**		**2.6832**	**2.6832**		**2.4867**	**2.4867**			**5,648.4196**	**1.7088**		**5,691.1405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3596	9.2127	2.7625	0.0193	0.4801	0.0658	0.5459	0.1382	0.0630	0.2012			2,056.1239	0.1484		2,059.8328
Worker	3.0941	2.3362	25.1619	0.0600	5.6559	0.0504	5.7063	1.5000	0.0465	1.5465			5,973.7144	0.2248		5,979.3347
Total	**3.4536**	**11.5489**	**27.9244**	**0.0793**	**6.1360**	**0.1162**	**6.2523**	**1.6382**	**0.1095**	**1.7477**			**8,029.8383**	**0.3732**		**8,039.1675**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,648.4196	1.7088		5,691.1405
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,648.4196**	**1.7088**		**5,691.1405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3596	9.2127	2.7625	0.0193	0.4801	0.0658	0.5459	0.1382	0.0630	0.2012			2,056.1239	0.1484		2,059.8328
Worker	3.0941	2.3362	25.1619	0.0600	5.6559	0.0504	5.7063	1.5000	0.0465	1.5465			5,973.7144	0.2248		5,979.3347
Total	**3.4536**	**11.5489**	**27.9244**	**0.0793**	**6.1360**	**0.1162**	**6.2523**	**1.6382**	**0.1095**	**1.7477**			**8,029.8383**	**0.3732**		**8,039.1675**

3.6 L15-UNEX Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.3233	41.0624	30.4985	0.0571		2.3113	2.3113		2.1423	2.1423			5,559.7961	1.6971		5,602.2245
Total	**4.3233**	**41.0624**	**30.4985**	**0.0571**		**2.3113**	**2.3113**		**2.1423**	**2.1423**			**5,559.7961**	**1.6971**		**5,602.2245**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3250	8.6914	2.5386	0.0191	0.4801	0.0563	0.5364	0.1382	0.0538	0.1920			2,034.5783	0.1429		2,038.1515
Worker	2.8021	2.0573	22.3893	0.0581	5.6559	0.0488	5.7047	1.5000	0.0449	1.5449			5,779.1819	0.1988		5,784.1522
Total	**3.1271**	**10.7487**	**24.9279**	**0.0771**	**6.1360**	**0.1050**	**6.2411**	**1.6382**	**0.0988**	**1.7370**			**7,813.7602**	**0.3417**		**7,822.3037**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,559.7961	1.6971		5,602.2245
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,559.7961**	**1.6971**		**5,602.2245**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3250	8.6914	2.5386	0.0191	0.4801	0.0563	0.5364	0.1382	0.0538	0.1920			2,034.5783	0.1429		2,038.1515
Worker	2.8021	2.0573	22.3893	0.0581	5.6559	0.0488	5.7047	1.5000	0.0449	1.5449			5,779.1819	0.1988		5,784.1522
Total	**3.1271**	**10.7487**	**24.9279**	**0.0771**	**6.1360**	**0.1050**	**6.2411**	**1.6382**	**0.0988**	**1.7370**			**7,813.7602**	**0.3417**		**7,822.3037**

3.6 L15-UNEX Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9272	37.5788	29.9272	0.0571		2.0192	2.0192		1.8716	1.8716			5,452.2190	1.6905		5,494.4812
Total	**3.9272**	**37.5788**	**29.9272**	**0.0571**		**2.0192**	**2.0192**		**1.8716**	**1.8716**			**5,452.2190**	**1.6905**		**5,494.4812**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2789	7.9763	2.3054	0.0189	0.4802	0.0382	0.5183	0.1382	0.0365	0.1747			2,020.8680	0.1351		2,024.2463
Worker	2.5858	1.8341	20.2912	0.0563	5.6559	0.0473	5.7032	1.5000	0.0436	1.5435			5,603.5472	0.1766		5,607.9626
Total	**2.8646**	**9.8104**	**22.5965**	**0.0752**	**6.1360**	**0.0854**	**6.2215**	**1.6382**	**0.0801**	**1.7183**			**7,624.4151**	**0.3118**		**7,632.2090**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,452.2190	1.6905		5,494.4812
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,452.2190**	**1.6905**		**5,494.4812**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2789	7.9763	2.3054	0.0189	0.4802	0.0382	0.5183	0.1382	0.0365	0.1747			2,020.8680	0.1351		2,024.2463
Worker	2.5858	1.8341	20.2912	0.0563	5.6559	0.0473	5.7032	1.5000	0.0436	1.5435			5,603.5472	0.1766		5,607.9626
Total	**2.8646**	**9.8104**	**22.5965**	**0.0752**	**6.1360**	**0.0854**	**6.2215**	**1.6382**	**0.0801**	**1.7183**			**7,624.4151**	**0.3118**		**7,632.2090**

3.6 L15-UNEX Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5388	33.8217	29.4104	0.0572		1.7421	1.7421		1.6146	1.6146			5,456.7679	1.6847		5,498.8843
Total	**3.5388**	**33.8217**	**29.4104**	**0.0572**		**1.7421**	**1.7421**		**1.6146**	**1.6146**			**5,456.7679**	**1.6847**		**5,498.8843**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2393	7.2667	2.1058	0.0188	0.4802	0.0154	0.4955	0.1383	0.0147	0.1529			2,005.0914	0.1294		2,008.3275
Worker	2.4127	1.6503	18.6337	0.0545	5.6559	0.0457	5.7016	1.5000	0.0421	1.5421			5,425.5905	0.1597		5,429.5819
Total	**2.6520**	**8.9170**	**20.7395**	**0.0732**	**6.1361**	**0.0611**	**6.1971**	**1.6382**	**0.0568**	**1.6950**			**7,430.6820**	**0.2891**		**7,437.9094**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0572		1.6862	1.6862		1.6862	1.6862			5,456.7679	1.6847		5,498.8843
Total	**1.4940**	**30.3568**	**36.5023**	**0.0572**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,456.7679**	**1.6847**		**5,498.8843**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2393	7.2667	2.1058	0.0188	0.4802	0.0154	0.4955	0.1383	0.0147	0.1529			2,005.0914	0.1294		2,008.3275
Worker	2.4127	1.6503	18.6337	0.0545	5.6559	0.0457	5.7016	1.5000	0.0421	1.5421			5,425.5905	0.1597		5,429.5819
Total	**2.6520**	**8.9170**	**20.7395**	**0.0732**	**6.1361**	**0.0611**	**6.1971**	**1.6382**	**0.0568**	**1.6950**			**7,430.6820**	**0.2891**		**7,437.9094**

3.7 War Building - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1616	20.5312	15.2493	0.0285		1.1556	1.1556		1.0712	1.0712			2,779.8980	0.8486		2,801.1123
Total	**2.1616**	**20.5312**	**15.2493**	**0.0285**		**1.1556**	**1.1556**		**1.0712**	**1.0712**			**2,779.8980**	**0.8486**		**2,801.1123**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2990	7.9961	2.3355	0.0176	0.4417	0.0518	0.4935	0.1272	0.0495	0.1767			1,871.8121	0.1315		1,875.0994
Worker	2.5917	1.9028	20.7079	0.0537	5.2311	0.0451	5.2762	1.3873	0.0416	1.4289			5,345.1722	0.1839		5,349.7692
Total	**2.8907**	**9.8989**	**23.0434**	**0.0712**	**5.6729**	**0.0969**	**5.7697**	**1.5145**	**0.0911**	**1.6056**			**7,216.9843**	**0.3154**		**7,224.8686**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0285		0.8431	0.8431		0.8431	0.8431			2,779.8980	0.8486		2,801.1123
Total	**0.7470**	**15.1784**	**18.2511**	**0.0285**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,779.8980**	**0.8486**		**2,801.1123**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2990	7.9961	2.3355	0.0176	0.4417	0.0518	0.4935	0.1272	0.0495	0.1767			1,871.8121	0.1315		1,875.0994
Worker	2.5917	1.9028	20.7079	0.0537	5.2311	0.0451	5.2762	1.3873	0.0416	1.4289			5,345.1722	0.1839		5,349.7692
Total	**2.8907**	**9.8989**	**23.0434**	**0.0712**	**5.6729**	**0.0969**	**5.7697**	**1.5145**	**0.0911**	**1.6056**			**7,216.9843**	**0.3154**		**7,224.8686**

3.7 War Building - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9636	18.7894	14.9636	0.0286		1.0096	1.0096		0.9358	0.9358			2,726.1095	0.8452		2,747.2406
Total	**1.9636**	**18.7894**	**14.9636**	**0.0286**		**1.0096**	**1.0096**		**0.9358**	**0.9358**			**2,726.1095**	**0.8452**		**2,747.2406**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2566	7.3382	2.1210	0.0174	0.4417	0.0351	0.4768	0.1272	0.0336	0.1608			1,859.1986	0.1243		1,862.3066
Worker	2.3916	1.6964	18.7673	0.0520	5.2311	0.0437	5.2749	1.3873	0.0403	1.4276			5,182.7274	0.1634		5,186.8113
Total	**2.6481**	**9.0345**	**20.8883**	**0.0695**	**5.6729**	**0.0788**	**5.7517**	**1.5145**	**0.0739**	**1.5884**			**7,041.9260**	**0.2877**		**7,049.1179**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0286		0.8431	0.8431		0.8431	0.8431			2,726.1095	0.8452		2,747.2406
Total	**0.7470**	**15.1784**	**18.2511**	**0.0286**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,726.1095**	**0.8452**		**2,747.2406**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2566	7.3382	2.1210	0.0174	0.4417	0.0351	0.4768	0.1272	0.0336	0.1608			1,859.1986	0.1243		1,862.3066
Worker	2.3916	1.6964	18.7673	0.0520	5.2311	0.0437	5.2749	1.3873	0.0403	1.4276			5,182.7274	0.1634		5,186.8113
Total	**2.6481**	**9.0345**	**20.8883**	**0.0695**	**5.6729**	**0.0788**	**5.7517**	**1.5145**	**0.0739**	**1.5884**			**7,041.9260**	**0.2877**		**7,049.1179**

3.7 War Building - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7694	16.9109	14.7052	0.0286		0.8711	0.8711		0.8073	0.8073			2,728.3839	0.8423		2,749.4422
Total	**1.7694**	**16.9109**	**14.7052**	**0.0286**		**0.8711**	**0.8711**		**0.8073**	**0.8073**			**2,728.3839**	**0.8423**		**2,749.4422**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2202	6.6853	1.9373	0.0173	0.4418	0.0141	0.4559	0.1272	0.0135	0.1407			1,844.6841	0.1191		1,847.6613
Worker	2.2315	1.5264	17.2344	0.0504	5.2311	0.0423	5.2734	1.3873	0.0389	1.4263			5,018.1351	0.1477		5,021.8267
Total	**2.4517**	**8.2117**	**19.1717**	**0.0676**	**5.6729**	**0.0564**	**5.7293**	**1.5145**	**0.0525**	**1.5670**			**6,862.8192**	**0.2668**		**6,869.4880**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0286		0.8431	0.8431		0.8431	0.8431			2,728.3839	0.8423		2,749.4422
Total	**0.7470**	**15.1784**	**18.2511**	**0.0286**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,728.3839**	**0.8423**		**2,749.4422**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2202	6.6853	1.9373	0.0173	0.4418	0.0141	0.4559	0.1272	0.0135	0.1407			1,844.6841	0.1191		1,847.6613
Worker	2.2315	1.5264	17.2344	0.0504	5.2311	0.0423	5.2734	1.3873	0.0389	1.4263			5,018.1351	0.1477		5,021.8267
Total	**2.4517**	**8.2117**	**19.1717**	**0.0676**	**5.6729**	**0.0564**	**5.7293**	**1.5145**	**0.0525**	**1.5670**			**6,862.8192**	**0.2668**		**6,869.4880**

3.8 L15-UNEX Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.8756	6.1074	7.2702	0.0119		0.3764	0.3764		0.3764	0.3764			1,125.7922	0.0773		1,127.7237
Total	**0.8756**	**6.1074**	**7.2702**	**0.0119**		**0.3764**	**0.3764**		**0.3764**	**0.3764**			**1,125.7922**	**0.0773**		**1,127.7237**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.9298	0.6360	7.1810	0.0210	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,090.8896	0.0615		2,092.4278
Total	**0.9298**	**0.6360**	**7.1810**	**0.0210**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,090.8896**	**0.0615**		**2,092.4278**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2377	5.4279	7.3297	0.0119		0.3804	0.3804		0.3804	0.3804			1,125.7922	0.0773		1,127.7237
Total	**0.2377**	**5.4279**	**7.3297**	**0.0119**		**0.3804**	**0.3804**		**0.3804**	**0.3804**			**1,125.7922**	**0.0773**		**1,127.7237**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.9298	0.6360	7.1810	0.0210	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,090.8896	0.0615		2,092.4278
Total	**0.9298**	**0.6360**	**7.1810**	**0.0210**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,090.8896**	**0.0615**		**2,092.4278**

3.9 All paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235			2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2556**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**			**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	6.3800e-003	0.1938	0.0562	5.0000e-004	0.0128	4.1000e-004	0.0132	3.6900e-003	3.9000e-004	4.0800e-003			53.4691	3.4500e-003		53.5554
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457			160.8377	4.7300e-003		160.9560
Total	**0.0779**	**0.2427**	**0.6085**	**2.1100e-003**	**0.1805**	**1.7600e-003**	**0.1822**	**0.0482**	**1.6400e-003**	**0.0498**			**214.3068**	**8.1800e-003**		**214.5114**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093			2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5609**	**11.2952**	**17.2957**	**0.0228**		**0.6093**	**0.6093**		**0.6093**	**0.6093**			**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	6.3800e-003	0.1938	0.0562	5.0000e-004	0.0128	4.1000e-004	0.0132	3.6900e-003	3.9000e-004	4.0800e-003			53.4691	3.4500e-003		53.5554
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457			160.8377	4.7300e-003		160.9560
Total	**0.0779**	**0.2427**	**0.6085**	**2.1100e-003**	**0.1805**	**1.7600e-003**	**0.1822**	**0.0482**	**1.6400e-003**	**0.0498**			**214.3068**	**8.1800e-003**		**214.5114**

3.10 Warren Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5837	4.0716	4.8468	7.9200e-003		0.2509	0.2509		0.2509	0.2509			750.5281	0.0515		751.8158
Total	**0.5837**	**4.0716**	**4.8468**	**7.9200e-003**		**0.2509**	**0.2509**		**0.2509**	**0.2509**			**750.5281**	**0.0515**		**751.8158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.9298	0.6360	7.1810	0.0210	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,090.8896	0.0615		2,092.4278
Total	**0.9298**	**0.6360**	**7.1810**	**0.0210**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,090.8896**	**0.0615**		**2,092.4278**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536			750.5281	0.0515		751.8158
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**			**750.5281**	**0.0515**		**751.8158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.9298	0.6360	7.1810	0.0210	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,090.8896	0.0615		2,092.4278
Total	**0.9298**	**0.6360**	**7.1810**	**0.0210**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,090.8896**	**0.0615**		**2,092.4278**

3.10 Warren Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5454	3.7560	4.8363	7.9200e-003		0.2179	0.2179		0.2179	0.2179			750.5281	0.0489		751.7497
Total	**0.5454**	**3.7560**	**4.8363**	**7.9200e-003**		**0.2179**	**0.2179**		**0.2179**	**0.2179**			**750.5281**	**0.0489**		**751.7497**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8733	0.5744	6.6139	0.0202	2.1796	0.0171	2.1967	0.5781	0.0157	0.5938			2,017.4104	0.0556		2,018.7992
Total	**0.8733**	**0.5744**	**6.6139**	**0.0202**	**2.1796**	**0.0171**	**2.1967**	**0.5781**	**0.0157**	**0.5938**			**2,017.4104**	**0.0556**		**2,018.7992**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536			750.5281	0.0489		751.7497
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**			**750.5281**	**0.0489**		**751.7497**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8733	0.5744	6.6139	0.0202	2.1796	0.0171	2.1967	0.5781	0.0157	0.5938			2,017.4104	0.0556		2,018.7992
Total	**0.8733**	**0.5744**	**6.6139**	**0.0202**	**2.1796**	**0.0171**	**2.1967**	**0.5781**	**0.0157**	**0.5938**			**2,017.4104**	**0.0556**		**2,018.7992**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments High Rise	0.00	0.00	0.00		
Apartments High Rise	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891
Apartments High Rise	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891
Apartments High Rise	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.3389	2.8957	1.2322	0.0185		0.2341	0.2341		0.2341	0.2341			3,696.5801	0.0709	0.0678	3,718.5470
NaturalGas Unmitigated	0.4461	3.8124	1.6223	0.0243		0.3082	0.3082		0.3082	0.3082			4,866.8359	0.0933	0.0892	4,895.7570

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	10701.3	0.1154	0.9862	0.4197	6.2900e-003		0.0797	0.0797		0.0797	0.0797			1,258.9745	0.0241	0.0231	1,266.4560
Apartments High Rise	10793	0.1164	0.9947	0.4233	6.3500e-003		0.0804	0.0804		0.0804	0.0804			1,269.7658	0.0243	0.0233	1,277.3113
Apartments High Rise	19873.8	0.2143	1.8315	0.7794	0.0117		0.1481	0.1481		0.1481	0.1481			2,338.0956	0.0448	0.0429	2,351.9897
Total		**0.4461**	**3.8124**	**1.6223**	**0.0243**		**0.3082**	**0.3082**		**0.3082**	**0.3082**			**4,866.8359**	**0.0933**	**0.0892**	**4,895.7570**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	15.0951	0.1628	1.3911	0.5920	8.8800e-003		0.1125	0.1125		0.1125	0.1125			1,775.8885	0.0340	0.0326	1,786.4417
Apartments High Rise	8.1281	0.0877	0.7491	0.3188	4.7800e-003		0.0606	0.0606		0.0606	0.0606			956.2476	0.0183	0.0175	961.9301
Apartments High Rise	8.19777	0.0884	0.7555	0.3215	4.8200e-003		0.0611	0.0611		0.0611	0.0611			964.4440	0.0185	0.0177	970.1752
Total		**0.3389**	**2.8957**	**1.2322**	**0.0185**		**0.2341**	**0.2341**		**0.2341**	**0.2341**			**3,696.5801**	**0.0709**	**0.0678**	**3,718.5470**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.0486	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948	0.0000	205.8607
Unmitigated	31.0486	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948	0.0000	205.8607

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.7894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	3.3894	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948		205.8607
Total	**31.0486**	**1.2913**	**111.8668**	**5.8900e-003**		**0.6166**	**0.6166**		**0.6166**	**0.6166**			**200.9913**	**0.1948**	**0.0000**	**205.8607**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.7894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	3.3894	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948		205.8607
Total	**31.0486**	**1.2913**	**111.8668**	**5.8900e-003**		**0.6166**	**0.6166**		**0.6166**	**0.6166**			**200.9913**	**0.1948**	**0.0000**	**205.8607**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	6	650	0.73	Diesel
Emergency Generator	1	0.5	6	750	0.73	Diesel
Emergency Generator	1	0.5	6	1250	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (600 - 750 HP)	0.5334	1.4907	1.3599	2.5600e-003		0.0785	0.0785		0.0785	0.0785			272.8421	0.0383		273.7984
Emergency Generator - Diesel (750 - 9999 HP)	1.6411	7.3388	4.1844	7.8900e-003		0.2414	0.2414		0.2414	0.2414			839.5141	0.1177		842.4566
Total	**2.1744**	**8.8294**	**5.5443**	**0.0105**		**0.3199**	**0.3199**		**0.3199**	**0.3199**			**1,112.3562**	**0.1560**		**1,116.2550**

11.0 Vegetation

UCLA LRDP Amendment & Student Housing - L15,UNEX,Warr

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	353.00	Dwelling Unit	1.70	353,000.00	1800
Apartments High Rise	650.00	Dwelling Unit	3.90	650,000.00	2350
Apartments High Rise	350.00	Dwelling Unit	1.00	350,000.00	1350

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - OpYear 2021

Land Use - L15-353 du;War 650 du; UNEX 350 du; all data from PD

Construction Phase - Const schedule per PD. One month assumed for all paving

Off-road Equipment - 3 sites grading

Off-road Equipment -

Off-road Equipment - 2 sites

Off-road Equipment - L15-UNEX 2 sites double default; no gen-site power; add drill rigs

Off-road Equipment - Concurrent utilities

Off-road Equipment - x

Off-road Equipment - War no gen; add drill rig

Off-road Equipment - 3 sites concurrent

Off-road Equipment - x

Off-road Equipment - Const equip per UCLA

Trips and VMT - Haul Truck trips per pD; Worker-vendor per appx A

Demolition -

Grading -

Architectural Coating - No exterior coating. Coating VOC calculated manually.

Vehicle Trips - No mobile emissions

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No woodstoves or fireplaces

Area Coating - No exterior paint
Reactivity adjusted VOC=25 g/L per UCLA reqts

Energy Use - Energy is default

Water And Wastewater - Water data from WSA; no change in landscape H2O

Construction Off-road Equipment Mitigation - All diesel const Tier3

Area Mitigation - Reactivity adjusted VOC

Energy Mitigation - 20% better than 2016 code = 42.4% better than 2013 baseline

Waste Mitigation - 70% waste reduction per current UCLA practice

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Emergency generators 0.5 hours/day, once/month

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	913,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	913,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,739,825.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,739,825.00	0.00

tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblAreaCoating	Area_EF_Residential_Interior	50	25
tblAreaCoating	Area_Residential_Exterior	913275	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	86.00
tblConstructionPhase	NumDays	20.00	87.00
tblConstructionPhase	NumDays	230.00	630.00
tblConstructionPhase	NumDays	230.00	761.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	23.00
tblFireplaces	NumberGas	1,150.05	0.00
tblFireplaces	NumberNoFireplace	135.30	1,353.00
tblFireplaces	NumberWood	67.65	0.00
tblGrading	AcresOfGrading	22.00	64.50
tblGrading	MaterialExported	0.00	43,000.00
tblGrading	MaterialImported	0.00	1,300.00
tblLandUse	LotAcreage	5.65	1.00
tblLandUse	LotAcreage	5.69	1.70
tblLandUse	LotAcreage	10.48	3.90
tblLandUse	Population	1,001.00	1,350.00
tblLandUse	Population	1,010.00	1,800.00
tblLandUse	Population	1,859.00	2,350.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	OperationalYear	2018	2021
tblTripsAndVMT	HaulingTripNumber	875.00	1,312.00
tblTripsAndVMT	HaulingTripNumber	1,568.00	6,936.00
tblTripsAndVMT	HaulingTripNumber	5,538.00	4,280.00
tblTripsAndVMT	VendorTripNumber	145.00	75.00
tblTripsAndVMT	VendorTripNumber	145.00	69.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	33.00	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	45.00
tblTripsAndVMT	WorkerTripNumber	974.00	506.00
tblTripsAndVMT	WorkerTripNumber	974.00	468.00
tblVehicleTrips	ST_TR	4.98	0.00
tblVehicleTrips	SU_TR	3.65	0.00
tblVehicleTrips	WD_TR	4.20	0.00
tblWater	IndoorWaterUseRate	88,153,396.67	120,693,090.00
tblWater	OutdoorWaterUseRate	55,574,967.46	0.00
tblWoodstoves	NumberCatalytic	67.65	0.00
tblWoodstoves	NumberNoncatalytic	67.65	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	13.1518	137.7034	96.3666	0.2712	17.6064	5.0120	22.6183	6.1233	4.6427	10.7660			27,685.9902	3.9814	0.0000	27,785.5238
2019	12.9792	118.5978	105.7069	0.2674	17.3721	4.3946	21.7667	6.0658	4.0718	10.1376			27,169.1298	3.9258	0.0000	27,267.2754
2020	10.8854	74.8746	91.5503	0.2381	11.8089	3.1919	15.0008	3.1527	2.9602	6.1129			23,622.8235	3.1403	0.0000	23,701.3316
2021	12.9585	87.4226	117.4332	0.2934	14.1690	3.8032	17.9723	3.7789	3.5480	7.3270			29,014.4472	3.9518	0.0000	29,113.2424
2022	1.3284	4.2749	12.0825	0.0294	2.1796	0.2350	2.4146	0.5781	0.2336	0.8117			2,893.0172	0.1080	0.0000	2,895.7171
Maximum	**13.1518**	**137.7034**	**117.4332**	**0.2934**	**17.6064**	**5.0120**	**22.6183**	**6.1233**	**4.6427**	**10.7660**			**29,014.4472**	**3.9814**	**0.0000**	**29,113.2424**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	6.9083	93.4488	102.8005	0.2712	13.3766	2.9986	16.3752	4.2009	2.9862	7.1871			27,685.9902	3.9814	0.0000	27,785.5238
2019	7.9793	91.0224	113.0093	0.2674	13.1423	3.0500	16.1195	4.1434	3.0379	7.1091			27,169.1298	3.9258	0.0000	27,267.2754
2020	7.2355	64.0416	101.4128	0.2381	11.8089	2.6925	14.5014	3.1527	2.6822	5.8349			23,622.8235	3.1403	0.0000	23,701.3316
2021	8.5587	79.9219	130.7729	0.2934	14.1690	3.6550	17.8240	3.7789	3.6453	7.4242			29,014.4471	3.9518	0.0000	29,113.2424

2022	0.9415	4.1376	12.1327	0.0294	2.1796	0.2706	2.4503	0.5781	0.2693	0.8473			2,893.0172	0.1080	0.0000	2,895.7171
Maximum	**8.5587**	**93.4488**	**130.7729**	**0.2934**	**14.1690**	**3.6550**	**17.8240**	**4.2009**	**3.6453**	**7.4242**			**29,014.4471**	**3.9814**	**0.0000**	**29,113.2424**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**38.36**	**21.35**	**-8.74**	**0.00**	**13.40**	**23.86**	**15.67**	**19.52**	**18.35**	**19.21**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.0486	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948	0.0000	205.8607
Energy	0.4461	3.8124	1.6223	0.0243		0.3082	0.3082		0.3082	0.3082			4,866.8359	0.0933	0.0892	4,895.7570
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	2.1744	8.8294	5.5443	0.0105		0.3199	0.3199		0.3199	0.3199			1,112.3562	0.1560		1,116.2550
Total	**33.6692**	**13.9331**	**119.0333**	**0.0407**	**0.0000**	**1.2447**	**1.2447**	**0.0000**	**1.2447**	**1.2447**			**6,180.1834**	**0.4440**	**0.0892**	**6,217.8727**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.0486	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948	0.0000	205.8607
Energy	0.3389	2.8957	1.2322	0.0185		0.2341	0.2341		0.2341	0.2341			3,696.5801	0.0709	0.0678	3,718.5470
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	2.1744	8.8294	5.5443	0.0105		0.3199	0.3199		0.3199	0.3199			1,112.3562	0.1560		1,116.2550
Total	**33.5619**	**13.0164**	**118.6433**	**0.0348**	**0.0000**	**1.1706**	**1.1706**	**0.0000**	**1.1706**	**1.1706**			**5,009.9276**	**0.4216**	**0.0678**	**5,040.6627**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.32**	**6.58**	**0.33**	**14.38**	**0.00**	**5.95**	**5.95**	**0.00**	**5.95**	**5.95**	**0.00**	**0.00**	**18.94**	**5.05**	**24.05**	**18.93**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	UNEX Demolition	Demolition	8/1/2018	9/30/2018	5	43	
2	Warr Abate-Demo/L15 demo-grad/LIN grad	Demolition	10/1/2018	11/30/2018	5	45	
3	Warren Grading	Grading	12/1/2018	1/31/2019	5	44	
4	Sewer - utilities	Trenching	12/1/2018	5/31/2019	5	130	
5	L15-UNEX Building Construction	Building Construction	12/1/2018	4/30/2021	5	630	
6	War Building	Building Construction	2/1/2019	12/31/2021	5	761	
7	L15-UNEX Architectural Coating	Architectural Coating	2/1/2021	5/31/2021	5	86	
8	All paving	Paving	3/1/2021	3/31/2021	5	23	
9	Warren Architectural Coating	Architectural Coating	10/1/2021	1/31/2022	5	87	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
UNEX Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
UNEX Demolition	Excavators	3	8.00	158	0.38
UNEX Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Warr Abate-Demo/L15 demo-grad/UN grad	Concrete/Industrial Saws	2	8.00	81	0.73
Warr Abate-Demo/L15 demo-grad/UN grad	Excavators	5	8.00	158	0.38
Warr Abate-Demo/L15 demo-grad/UN grad	Graders	2	8.00	187	0.41
Warr Abate-Demo/L15 demo-grad/UN grad	Rubber Tired Dozers	4	8.00	247	0.40
Warren Grading	Excavators	2	8.00	158	0.38
Warren Grading	Graders	1	8.00	187	0.41
Warren Grading	Rubber Tired Dozers	1	8.00	247	0.40
Warren Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Sewer - utilities	Signal Boards	3	16.00	6	0.82
Sewer - utilities	Tractors/Loaders/Backhoes	3	7.00	97	0.37
L15-UNEX Building Construction	Bore/Drill Rigs	2	7.00	221	0.50
L15-UNEX Building Construction	Cranes	2	7.00	231	0.29
L15-UNEX Building Construction	Forklifts	6	8.00	89	0.20
L15-UNEX Building Construction	Generator Sets	0	8.00	84	0.74
L15-UNEX Building Construction	Tractors/Loaders/Backhoes	6	7.00	97	0.37
L15-UNEX Building Construction	Welders	2	8.00	46	0.45
War Building	Bore/Drill Rigs	1	7.00	221	0.50
War Building	Cranes	1	7.00	231	0.29
War Building	Forklifts	3	8.00	89	0.20

War Building	Generator Sets	0	8.00	84	0.74
War Building	Tractors/Loaders/Backhoes	3	7.00	97	0.37
War Building	Welders	1	8.00	46	0.45
L15-UNEX Architectural Coating	Air Compressors	4	6.00	78	0.48
All paving	Pavers	2	8.00	130	0.42
All paving	Paving Equipment	2	8.00	132	0.36
All paving	Rollers	2	8.00	80	0.38
Warren Architectural Coating	Air Compressors	2	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
UNEX Demolition	6	15.00	0.00	1,312.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warr Abate-Demo/L15 demo-grad/UN grad	13	25.00	0.00	6,936.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warren Grading	6	45.00	0.00	4,280.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Sewer - utilities	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Building Construction	18	506.00	75.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
War Building	9	468.00	69.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Architectural Coating	4	195.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
All paving	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warren Architectural Coating	2	195.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 UNEX Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.4047	0.0000	4.4047	0.6669	0.0000	0.6669			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048			3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**4.4047**	**1.9386**	**6.3433**	**0.6669**	**1.8048**	**2.4717**			**3,871.7665**	**1.0667**		**3,898.4344**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3029	9.8572	2.0396	0.0247	0.5334	0.0375	0.5709	0.1462	0.0359	0.1821			2,671.6426	0.1839		2,676.2406
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			188.0535	7.0500e-003		188.2298
Total	**0.3857**	**9.9198**	**2.8497**	**0.0266**	**0.7011**	**0.0390**	**0.7401**	**0.1907**	**0.0373**	**0.2279**			**2,859.6961**	**0.1910**		**2,864.4704**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9821	0.0000	1.9821	0.3001	0.0000	0.3001			0.0000			0.0000
Off-Road	0.9246	18.3130	24.6739	0.0388		0.8627	0.8627		0.8627	0.8627			3,871.7665	1.0667		3,898.4344
Total	**0.9246**	**18.3130**	**24.6739**	**0.0388**	**1.9821**	**0.8627**	**2.8448**	**0.3001**	**0.8627**	**1.1628**			**3,871.7665**	**1.0667**		**3,898.4344**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3029	9.8572	2.0396	0.0247	0.5334	0.0375	0.5709	0.1462	0.0359	0.1821			2,671.6426	0.1839		2,676.2406
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			188.0535	7.0500e-003		188.2298
Total	**0.3857**	**9.9198**	**2.8497**	**0.0266**	**0.7011**	**0.0390**	**0.7401**	**0.1907**	**0.0373**	**0.2279**			**2,859.6961**	**0.1910**		**2,864.4704**

3.3 Warr Abate-Demo/L15 demo-grad/UN grad - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.5424	0.0000	7.5424	1.1420	0.0000	1.1420			0.0000			0.0000
Off-Road	8.1882	87.8041	45.1618	0.0858		4.1904	4.1904		3.8979	3.8979			8,563.8186	2.3888		8,623.5385
Total	**8.1882**	**87.8041**	**45.1618**	**0.0858**	**7.5424**	**4.1904**	**11.7328**	**1.1420**	**3.8979**	**5.0398**			**8,563.8186**	**2.3888**		**8,623.5385**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5299	49.7950	10.3033	0.1249	2.6947	0.1894	2.8842	0.7387	0.1812	0.9199			13,496.1392	0.9291		13,519.3665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1381	0.1042	1.3502	3.1500e-003	0.2794	2.4900e-003	0.2819	0.0741	2.3000e-003	0.0764			313.4225	0.0118		313.7163
Total	**1.6680**	**49.8992**	**11.6535**	**0.1281**	**2.9742**	**0.1919**	**3.1661**	**0.8128**	**0.1835**	**0.9963**			**13,809.5617**	**0.9409**		**13,833.0829**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3941	0.0000	3.3941	0.5139	0.0000	0.5139			0.0000			0.0000
Off-Road	2.0466	40.4435	52.4613	0.0858		1.8448	1.8448		1.8448	1.8448			8,563.8186	2.3888		8,623.5385
Total	**2.0466**	**40.4435**	**52.4613**	**0.0858**	**3.3941**	**1.8448**	**5.2389**	**0.5139**	**1.8448**	**2.3587**			**8,563.8186**	**2.3888**		**8,623.5385**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5299	49.7950	10.3033	0.1249	2.6947	0.1894	2.8842	0.7387	0.1812	0.9199			13,496.1392	0.9291		13,519.3665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1381	0.1042	1.3502	3.1500e-003	0.2794	2.4900e-003	0.2819	0.0741	2.3000e-003	0.0764			313.4225	0.0118		313.7163
Total	**1.6680**	**49.8992**	**11.6535**	**0.1281**	**2.9742**	**0.1919**	**3.1661**	**0.8128**	**0.1835**	**0.9963**			**13,809.5617**	**0.9409**		**13,833.0829**

3.4 Warren Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6905	0.0000	7.6905	3.4953	0.0000	3.4953			0.0000			0.0000
Off-Road	2.7963	31.1387	17.5159	0.0317		1.5152	1.5152		1.3940	1.3940			3,194.8307	0.9946		3,219.6956
Total	**2.7963**	**31.1387**	**17.5159**	**0.0317**	**7.6905**	**1.5152**	**9.2057**	**3.4953**	**1.3940**	**4.8893**			**3,194.8307**	**0.9946**		**3,219.6956**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9655	31.4253	6.5024	0.0788	3.1092	0.1195	3.2287	0.8119	0.1144	0.9263			8,517.3417	0.5864		8,532.0004
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2486	0.1876	2.4303	5.6700e-003	0.5030	4.4800e-003	0.5075	0.1334	4.1300e-003	0.1375			564.1604	0.0212		564.6894
Total	**1.2141**	**31.6130**	**8.9327**	**0.0845**	**3.6122**	**0.1240**	**3.7362**	**0.9453**	**0.1185**	**1.0638**			**9,081.5021**	**0.6075**		**9,096.6898**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4607	0.0000	3.4607	1.5729	0.0000	1.5729			0.0000			0.0000
Off-Road	0.7774	15.5621	20.5666	0.0317		0.7526	0.7526		0.7526	0.7526			3,194.8307	0.9946		3,219.6956
Total	**0.7774**	**15.5621**	**20.5666**	**0.0317**	**3.4607**	**0.7526**	**4.2134**	**1.5729**	**0.7526**	**2.3255**			**3,194.8307**	**0.9946**		**3,219.6956**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9655	31.4253	6.5024	0.0788	3.1092	0.1195	3.2287	0.8119	0.1144	0.9263			8,517.3417	0.5864		8,532.0004
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2486	0.1876	2.4303	5.6700e-003	0.5030	4.4800e-003	0.5075	0.1334	4.1300e-003	0.1375			564.1604	0.0212		564.6894
Total	**1.2141**	**31.6130**	**8.9327**	**0.0845**	**3.6122**	**0.1240**	**3.7362**	**0.9453**	**0.1185**	**1.0638**			**9,081.5021**	**0.6075**		**9,096.6898**

3.4 Warren Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6905	0.0000	7.6905	3.4953	0.0000	3.4953			0.0000			0.0000
Off-Road	2.6084	28.6925	17.2539	0.0317		1.3707	1.3707		1.2610	1.2610			3,140.3905	0.9936		3,165.2302
Total	**2.6084**	**28.6925**	**17.2539**	**0.0317**	**7.6905**	**1.3707**	**9.0612**	**3.4953**	**1.2610**	**4.7563**			**3,140.3905**	**0.9936**		**3,165.2302**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9141	29.7930	6.3522	0.0777	2.8749	0.1093	2.9843	0.7544	0.1046	0.8590			8,409.3416	0.5791		8,423.8201
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2248	0.1652	2.1697	5.4800e-003	0.5030	4.3400e-003	0.5073	0.1334	4.0000e-003	0.1374			545.8288	0.0188		546.2975
Total	**1.1389**	**29.9582**	**8.5219**	**0.0832**	**3.3779**	**0.1137**	**3.4916**	**0.8878**	**0.1086**	**0.9964**			**8,955.1704**	**0.5979**		**8,970.1176**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4607	0.0000	3.4607	1.5729	0.0000	1.5729			0.0000			0.0000
Off-Road	0.7774	15.5621	20.5666	0.0317		0.7526	0.7526		0.7526	0.7526			3,140.3905	0.9936		3,165.2302
Total	**0.7774**	**15.5621**	**20.5666**	**0.0317**	**3.4607**	**0.7526**	**4.2134**	**1.5729**	**0.7526**	**2.3255**			**3,140.3905**	**0.9936**		**3,165.2302**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9141	29.7930	6.3522	0.0777	2.8749	0.1093	2.9843	0.7544	0.1046	0.8590			8,409.3416	0.5791		8,423.8201
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2248	0.1652	2.1697	5.4800e-003	0.5030	4.3400e-003	0.5073	0.1334	4.0000e-003	0.1374			545.8288	0.0188		546.2975
Total	**1.1389**	**29.9582**	**8.5219**	**0.0832**	**3.3779**	**0.1137**	**3.4916**	**0.8878**	**0.1086**	**0.9964**			**8,955.1704**	**0.5979**		**8,970.1176**

3.5 Sewer - utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0427	9.0595	7.9400	0.0123		0.5729	0.5729		0.5337	0.5337			1,116.9182	0.2863		1,124.0761
Total	**1.0427**	**9.0595**	**7.9400**	**0.0123**		**0.5729**	**0.5729**		**0.5337**	**0.5337**			**1,116.9182**	**0.2863**		**1,124.0761**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			188.0535	7.0500e-003		188.2298
Total	**0.0829**	**0.0625**	**0.8101**	**1.8900e-003**	**0.1677**	**1.4900e-003**	**0.1692**	**0.0445**	**1.3800e-003**	**0.0458**			**188.0535**	**7.0500e-003**		**188.2298**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1994	4.5528	6.1479	0.0123		0.3190	0.3190		0.3190	0.3190			1,116.9182	0.2863		1,124.0761
Total	**0.1994**	**4.5528**	**6.1479**	**0.0123**		**0.3190**	**0.3190**		**0.3190**	**0.3190**			**1,116.9182**	**0.2863**		**1,124.0761**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			188.0535	7.0500e-003		188.2298
Total	**0.0829**	**0.0625**	**0.8101**	**1.8900e-003**	**0.1677**	**1.4900e-003**	**0.1692**	**0.0445**	**1.3800e-003**	**0.0458**			**188.0535**	**7.0500e-003**		**188.2298**

3.5 Sewer - utilities - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9553	8.2921	7.8512	0.0123		0.4934	0.4934		0.4607	0.4607			1,103.1787	0.2861		1,110.3321
Total	**0.9553**	**8.2921**	**7.8512**	**0.0123**		**0.4934**	**0.4934**		**0.4607**	**0.4607**			**1,103.1787**	**0.2861**		**1,110.3321**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458			181.9429	6.2500e-003		182.0992
Total	**0.0749**	**0.0551**	**0.7233**	**1.8300e-003**	**0.1677**	**1.4500e-003**	**0.1691**	**0.0445**	**1.3300e-003**	**0.0458**			**181.9429**	**6.2500e-003**		**182.0992**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1994	4.5528	6.1479	0.0123		0.3190	0.3190		0.3190	0.3190			1,103.1787	0.2861		1,110.3321
Total	**0.1994**	**4.5528**	**6.1479**	**0.0123**		**0.3190**	**0.3190**		**0.3190**	**0.3190**			**1,103.1787**	**0.2861**		**1,110.3321**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458			181.9429	6.2500e-003		182.0992
Total	**0.0749**	**0.0551**	**0.7233**	**1.8300e-003**	**0.1677**	**1.4500e-003**	**0.1691**	**0.0445**	**1.3300e-003**	**0.0458**			**181.9429**	**6.2500e-003**		**182.0992**

3.6 L15-UNEX Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.8753	45.8965	31.3269	0.0571		2.6832	2.6832		2.4867	2.4867			5,648.4196	1.7088		5,691.1405
Total	**4.8753**	**45.8965**	**31.3269**	**0.0571**		**2.6832**	**2.6832**		**2.4867**	**2.4867**			**5,648.4196**	**1.7088**		**5,691.1405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3450	9.1920	2.5132	0.0198	0.4801	0.0648	0.5449	0.1382	0.0620	0.2002			2,112.5956	0.1391		2,116.0733
Worker	2.7955	2.1096	27.3278	0.0638	5.6559	0.0504	5.7063	1.5000	0.0465	1.5465			6,343.6706	0.2379		6,349.6188
Total	**3.1406**	**11.3016**	**29.8410**	**0.0836**	**6.1360**	**0.1152**	**6.2512**	**1.6382**	**0.1085**	**1.7467**			**8,456.2662**	**0.3770**		**8,465.6921**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,648.4196	1.7088		5,691.1405
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,648.4196**	**1.7088**		**5,691.1405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3450	9.1920	2.5132	0.0198	0.4801	0.0648	0.5449	0.1382	0.0620	0.2002			2,112.5956	0.1391		2,116.0733
Worker	2.7955	2.1096	27.3278	0.0638	5.6559	0.0504	5.7063	1.5000	0.0465	1.5465			6,343.6706	0.2379		6,349.6188
Total	**3.1406**	**11.3016**	**29.8410**	**0.0836**	**6.1360**	**0.1152**	**6.2512**	**1.6382**	**0.1085**	**1.7467**			**8,456.2662**	**0.3770**		**8,465.6921**

3.6 L15-UNEX Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.3233	41.0624	30.4985	0.0571		2.3113	2.3113		2.1423	2.1423			5,559.7961	1.6971		5,602.2245
Total	**4.3233**	**41.0624**	**30.4985**	**0.0571**		**2.3113**	**2.3113**		**2.1423**	**2.1423**			**5,559.7961**	**1.6971**		**5,602.2245**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3117	8.6797	2.3031	0.0196	0.4801	0.0553	0.5355	0.1382	0.0529	0.1912			2,091.1096	0.1340		2,094.4598
Worker	2.5278	1.8578	24.3975	0.0617	5.6559	0.0488	5.7047	1.5000	0.0449	1.5449			6,137.5416	0.2108		6,142.8120
Total	**2.8394**	**10.5375**	**26.7006**	**0.0813**	**6.1360**	**0.1041**	**6.2401**	**1.6382**	**0.0979**	**1.7361**			**8,228.6512**	**0.3448**		**8,237.2717**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,559.7961	1.6971		5,602.2245
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,559.7961**	**1.6971**		**5,602.2245**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3117	8.6797	2.3031	0.0196	0.4801	0.0553	0.5355	0.1382	0.0529	0.1912			2,091.1096	0.1340		2,094.4598
Worker	2.5278	1.8578	24.3975	0.0617	5.6559	0.0488	5.7047	1.5000	0.0449	1.5449			6,137.5416	0.2108		6,142.8120
Total	**2.8394**	**10.5375**	**26.7006**	**0.0813**	**6.1360**	**0.1041**	**6.2401**	**1.6382**	**0.0979**	**1.7361**			**8,228.6512**	**0.3448**		**8,237.2717**

3.6 L15-UNEX Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9272	37.5788	29.9272	0.0571		2.0192	2.0192		1.8716	1.8716			5,452.2190	1.6905		5,494.4812
Total	**3.9272**	**37.5788**	**29.9272**	**0.0571**		**2.0192**	**2.0192**		**1.8716**	**1.8716**			**5,452.2190**	**1.6905**		**5,494.4812**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2668	7.9779	2.0903	0.0195	0.4802	0.0376	0.5177	0.1382	0.0359	0.1742			2,077.6852	0.1268		2,080.8549
Worker	2.3286	1.6566	22.1549	0.0598	5.6559	0.0473	5.7032	1.5000	0.0436	1.5435			5,951.1311	0.1876		5,955.8218
Total	**2.5954**	**9.6345**	**24.2452**	**0.0792**	**6.1360**	**0.0848**	**6.2209**	**1.6382**	**0.0795**	**1.7177**			**8,028.8163**	**0.3144**		**8,036.6767**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,452.2190	1.6905		5,494.4812
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,452.2190**	**1.6905**		**5,494.4812**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2668	7.9779	2.0903	0.0195	0.4802	0.0376	0.5177	0.1382	0.0359	0.1742			2,077.6852	0.1268		2,080.8549
Worker	2.3286	1.6566	22.1549	0.0598	5.6559	0.0473	5.7032	1.5000	0.0436	1.5435			5,951.1311	0.1876		5,955.8218
Total	**2.5954**	**9.6345**	**24.2452**	**0.0792**	**6.1360**	**0.0848**	**6.2209**	**1.6382**	**0.0795**	**1.7177**			**8,028.8163**	**0.3144**		**8,036.6767**

3.6 L15-UNEX Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5388	33.8217	29.4104	0.0572		1.7421	1.7421		1.6146	1.6146			5,456.7679	1.6847		5,498.8843
Total	**3.5388**	**33.8217**	**29.4104**	**0.0572**		**1.7421**	**1.7421**		**1.6146**	**1.6146**			**5,456.7679**	**1.6847**		**5,498.8843**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2280	7.2817	1.9036	0.0193	0.4802	0.0149	0.4951	0.1383	0.0142	0.1525			2,061.6047	0.1215		2,064.6411
Worker	2.1690	1.4909	20.3804	0.0579	5.6559	0.0457	5.7016	1.5000	0.0421	1.5421			5,762.1755	0.1698		5,766.4200
Total	**2.3970**	**8.7726**	**22.2840**	**0.0771**	**6.1361**	**0.0606**	**6.1966**	**1.6382**	**0.0563**	**1.6946**			**7,823.7802**	**0.2912**		**7,831.0611**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0572		1.6862	1.6862		1.6862	1.6862			5,456.7679	1.6847		5,498.8843
Total	**1.4940**	**30.3568**	**36.5023**	**0.0572**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,456.7679**	**1.6847**		**5,498.8843**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2280	7.2817	1.9036	0.0193	0.4802	0.0149	0.4951	0.1383	0.0142	0.1525			2,061.6047	0.1215		2,064.6411
Worker	2.1690	1.4909	20.3804	0.0579	5.6559	0.0457	5.7016	1.5000	0.0421	1.5421			5,762.1755	0.1698		5,766.4200
Total	**2.3970**	**8.7726**	**22.2840**	**0.0771**	**6.1361**	**0.0606**	**6.1966**	**1.6382**	**0.0563**	**1.6946**			**7,823.7802**	**0.2912**		**7,831.0611**

3.7 War Building - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1616	20.5312	15.2493	0.0285		1.1556	1.1556		1.0712	1.0712			2,779.8980	0.8486		2,801.1123
Total	**2.1616**	**20.5312**	**15.2493**	**0.0285**		**1.1556**	**1.1556**		**1.0712**	**1.0712**			**2,779.8980**	**0.8486**		**2,801.1123**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2867	7.9853	2.1189	0.0180	0.4417	0.0509	0.4926	0.1272	0.0487	0.1759			1,923.8209	0.1233		1,926.9030
Worker	2.3379	1.7183	22.5653	0.0570	5.2311	0.0451	5.2762	1.3873	0.0416	1.4289			5,676.6195	0.1950		5,681.4941
Total	**2.6247**	**9.7036**	**24.6841**	**0.0751**	**5.6729**	**0.0960**	**5.7689**	**1.5145**	**0.0903**	**1.6048**			**7,600.4404**	**0.3183**		**7,608.3971**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0285		0.8431	0.8431		0.8431	0.8431			2,779.8980	0.8486		2,801.1123
Total	**0.7470**	**15.1784**	**18.2511**	**0.0285**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,779.8980**	**0.8486**		**2,801.1123**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2867	7.9853	2.1189	0.0180	0.4417	0.0509	0.4926	0.1272	0.0487	0.1759			1,923.8209	0.1233		1,926.9030
Worker	2.3379	1.7183	22.5653	0.0570	5.2311	0.0451	5.2762	1.3873	0.0416	1.4289			5,676.6195	0.1950		5,681.4941
Total	**2.6247**	**9.7036**	**24.6841**	**0.0751**	**5.6729**	**0.0960**	**5.7689**	**1.5145**	**0.0903**	**1.6048**			**7,600.4404**	**0.3183**		**7,608.3971**

3.7 War Building - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9636	18.7894	14.9636	0.0286		1.0096	1.0096		0.9358	0.9358			2,726.1095	0.8452		2,747.2406
Total	**1.9636**	**18.7894**	**14.9636**	**0.0286**		**1.0096**	**1.0096**		**0.9358**	**0.9358**			**2,726.1095**	**0.8452**		**2,747.2406**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2454	7.3397	1.9231	0.0179	0.4417	0.0346	0.4763	0.1272	0.0331	0.1602			1,911.4704	0.1166		1,914.3865
Worker	2.1538	1.5322	20.4911	0.0553	5.2311	0.0437	5.2749	1.3873	0.0403	1.4276			5,504.2082	0.1735		5,508.5466
Total	**2.3992**	**8.8719**	**22.4142**	**0.0732**	**5.6729**	**0.0783**	**5.7512**	**1.5145**	**0.0733**	**1.5878**			**7,415.6786**	**0.2902**		**7,422.9331**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0286		0.8431	0.8431		0.8431	0.8431			2,726.1095	0.8452		2,747.2406
Total	**0.7470**	**15.1784**	**18.2511**	**0.0286**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,726.1095**	**0.8452**		**2,747.2406**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2454	7.3397	1.9231	0.0179	0.4417	0.0346	0.4763	0.1272	0.0331	0.1602			1,911.4704	0.1166		1,914.3865
Worker	2.1538	1.5322	20.4911	0.0553	5.2311	0.0437	5.2749	1.3873	0.0403	1.4276			5,504.2082	0.1735		5,508.5466
Total	**2.3992**	**8.8719**	**22.4142**	**0.0732**	**5.6729**	**0.0783**	**5.7512**	**1.5145**	**0.0733**	**1.5878**			**7,415.6786**	**0.2902**		**7,422.9331**

3.7 War Building - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7694	16.9109	14.7052	0.0286		0.8711	0.8711		0.8073	0.8073			2,728.3839	0.8423		2,749.4422
Total	**1.7694**	**16.9109**	**14.7052**	**0.0286**		**0.8711**	**0.8711**		**0.8073**	**0.8073**			**2,728.3839**	**0.8423**		**2,749.4422**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2097	6.6992	1.7513	0.0177	0.4418	0.0137	0.4555	0.1272	0.0131	0.1403			1,896.6764	0.1117		1,899.4698
Worker	2.0061	1.3789	18.8498	0.0535	5.2311	0.0423	5.2734	1.3873	0.0389	1.4263			5,329.4429	0.1570		5,333.3687
Total	**2.2158**	**8.0781**	**20.6012**	**0.0712**	**5.6729**	**0.0560**	**5.7289**	**1.5145**	**0.0520**	**1.5666**			**7,226.1193**	**0.2688**		**7,232.8385**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0286		0.8431	0.8431		0.8431	0.8431			2,728.3839	0.8423		2,749.4422
Total	**0.7470**	**15.1784**	**18.2511**	**0.0286**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,728.3839**	**0.8423**		**2,749.4422**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2097	6.6992	1.7513	0.0177	0.4418	0.0137	0.4555	0.1272	0.0131	0.1403			1,896.6764	0.1117		1,899.4698
Worker	2.0061	1.3789	18.8498	0.0535	5.2311	0.0423	5.2734	1.3873	0.0389	1.4263			5,329.4429	0.1570		5,333.3687
Total	**2.2158**	**8.0781**	**20.6012**	**0.0712**	**5.6729**	**0.0560**	**5.7289**	**1.5145**	**0.0520**	**1.5666**			**7,226.1193**	**0.2688**		**7,232.8385**

3.8 L15-UNEX Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.8756	6.1074	7.2702	0.0119		0.3764	0.3764		0.3764	0.3764			1,125.7922	0.0773		1,127.7237
Total	**0.8756**	**6.1074**	**7.2702**	**0.0119**		**0.3764**	**0.3764**		**0.3764**	**0.3764**			**1,125.7922**	**0.0773**		**1,127.7237**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8359	0.5745	7.8541	0.0223	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,220.6012	0.0654		2,222.2370
Total	**0.8359**	**0.5745**	**7.8541**	**0.0223**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,220.6012**	**0.0654**		**2,222.2370**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2377	5.4279	7.3297	0.0119		0.3804	0.3804		0.3804	0.3804			1,125.7922	0.0773		1,127.7237
Total	**0.2377**	**5.4279**	**7.3297**	**0.0119**		**0.3804**	**0.3804**		**0.3804**	**0.3804**			**1,125.7922**	**0.0773**		**1,127.7237**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8359	0.5745	7.8541	0.0223	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,220.6012	0.0654		2,222.2370
Total	**0.8359**	**0.5745**	**7.8541**	**0.0223**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,220.6012**	**0.0654**		**2,222.2370**

3.9 All paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235			2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2556**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**			**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	6.0800e-003	0.1942	0.0508	5.1000e-004	0.0128	4.0000e-004	0.0132	3.6900e-003	3.8000e-004	4.0700e-003			54.9761	3.2400e-003		55.0571
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457			170.8155	5.0300e-003		170.9413
Total	**0.0704**	**0.2384**	**0.6549**	**2.2200e-003**	**0.1805**	**1.7500e-003**	**0.1822**	**0.0482**	**1.6300e-003**	**0.0498**			**225.7916**	**8.2700e-003**		**225.9984**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093			2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5609**	**11.2952**	**17.2957**	**0.0228**		**0.6093**	**0.6093**		**0.6093**	**0.6093**			**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	6.0800e-003	0.1942	0.0508	5.1000e-004	0.0128	4.0000e-004	0.0132	3.6900e-003	3.8000e-004	4.0700e-003			54.9761	3.2400e-003		55.0571
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457			170.8155	5.0300e-003		170.9413
Total	**0.0704**	**0.2384**	**0.6549**	**2.2200e-003**	**0.1805**	**1.7500e-003**	**0.1822**	**0.0482**	**1.6300e-003**	**0.0498**			**225.7916**	**8.2700e-003**		**225.9984**

3.10 Warren Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5837	4.0716	4.8468	7.9200e-003		0.2509	0.2509		0.2509	0.2509			750.5281	0.0515		751.8158
Total	**0.5837**	**4.0716**	**4.8468**	**7.9200e-003**		**0.2509**	**0.2509**		**0.2509**	**0.2509**			**750.5281**	**0.0515**		**751.8158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8359	0.5745	7.8541	0.0223	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,220.6012	0.0654		2,222.2370
Total	**0.8359**	**0.5745**	**7.8541**	**0.0223**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,220.6012**	**0.0654**		**2,222.2370**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536			750.5281	0.0515		751.8158
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**			**750.5281**	**0.0515**		**751.8158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8359	0.5745	7.8541	0.0223	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,220.6012	0.0654		2,222.2370
Total	**0.8359**	**0.5745**	**7.8541**	**0.0223**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,220.6012**	**0.0654**		**2,222.2370**

3.10 Warren Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5454	3.7560	4.8363	7.9200e-003		0.2179	0.2179		0.2179	0.2179			750.5281	0.0489		751.7497
Total	**0.5454**	**3.7560**	**4.8363**	**7.9200e-003**		**0.2179**	**0.2179**		**0.2179**	**0.2179**			**750.5281**	**0.0489**		**751.7497**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.7830	0.5190	7.2463	0.0215	2.1796	0.0171	2.1967	0.5781	0.0157	0.5938			2,142.4890	0.0591		2,143.9674
Total	**0.7830**	**0.5190**	**7.2463**	**0.0215**	**2.1796**	**0.0171**	**2.1967**	**0.5781**	**0.0157**	**0.5938**			**2,142.4890**	**0.0591**		**2,143.9674**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536			750.5281	0.0489		751.7497
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**			**750.5281**	**0.0489**		**751.7497**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.7830	0.5190	7.2463	0.0215	2.1796	0.0171	2.1967	0.5781	0.0157	0.5938			2,142.4890	0.0591		2,143.9674
Total	**0.7830**	**0.5190**	**7.2463**	**0.0215**	**2.1796**	**0.0171**	**2.1967**	**0.5781**	**0.0157**	**0.5938**			**2,142.4890**	**0.0591**		**2,143.9674**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments High Rise	0.00	0.00	0.00		
Apartments High Rise	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891
Apartments High Rise	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891
Apartments High Rise	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.3389	2.8957	1.2322	0.0185		0.2341	0.2341		0.2341	0.2341			3,696.5801	0.0709	0.0678	3,718.5470
NaturalGas Unmitigated	0.4461	3.8124	1.6223	0.0243		0.3082	0.3082		0.3082	0.3082			4,866.8359	0.0933	0.0892	4,895.7570

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	10701.3	0.1154	0.9862	0.4197	6.2900e-003		0.0797	0.0797		0.0797	0.0797			1,258.9745	0.0241	0.0231	1,266.4560
Apartments High Rise	10793	0.1164	0.9947	0.4233	6.3500e-003		0.0804	0.0804		0.0804	0.0804			1,269.7658	0.0243	0.0233	1,277.3113
Apartments High Rise	19873.8	0.2143	1.8315	0.7794	0.0117		0.1481	0.1481		0.1481	0.1481			2,338.0956	0.0448	0.0429	2,351.9897
Total		**0.4461**	**3.8124**	**1.6223**	**0.0243**		**0.3082**	**0.3082**		**0.3082**	**0.3082**			**4,866.8359**	**0.0933**	**0.0892**	**4,895.7570**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	15.0951	0.1628	1.3911	0.5920	8.8800e-003		0.1125	0.1125		0.1125	0.1125			1,775.8885	0.0340	0.0326	1,786.4417
Apartments High Rise	8.1281	0.0877	0.7491	0.3188	4.7800e-003		0.0606	0.0606		0.0606	0.0606			956.2476	0.0183	0.0175	961.9301
Apartments High Rise	8.19777	0.0884	0.7555	0.3215	4.8200e-003		0.0611	0.0611		0.0611	0.0611			964.4440	0.0185	0.0177	970.1752
Total		**0.3389**	**2.8957**	**1.2322**	**0.0185**		**0.2341**	**0.2341**		**0.2341**	**0.2341**			**3,696.5801**	**0.0709**	**0.0678**	**3,718.5470**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.0486	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948	0.0000	205.8607
Unmitigated	31.0486	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948	0.0000	205.8607

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.7894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	3.3894	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948		205.8607
Total	**31.0486**	**1.2913**	**111.8668**	**5.8900e-003**		**0.6166**	**0.6166**		**0.6166**	**0.6166**			**200.9913**	**0.1948**	**0.0000**	**205.8607**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.7894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	3.3894	1.2913	111.8668	5.8900e-003		0.6166	0.6166		0.6166	0.6166			200.9913	0.1948		205.8607
Total	**31.0486**	**1.2913**	**111.8668**	**5.8900e-003**		**0.6166**	**0.6166**		**0.6166**	**0.6166**			**200.9913**	**0.1948**	**0.0000**	**205.8607**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	6	650	0.73	Diesel
Emergency Generator	1	0.5	6	750	0.73	Diesel
Emergency Generator	1	0.5	6	1250	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (600 - 750 HP)	0.5334	1.4907	1.3599	2.5600e-003		0.0785	0.0785		0.0785	0.0785			272.8421	0.0383		273.7984
Emergency Generator - Diesel (750 - 9999 HP)	1.6411	7.3388	4.1844	7.8900e-003		0.2414	0.2414		0.2414	0.2414			839.5141	0.1177		842.4566
Total	**2.1744**	**8.8294**	**5.5443**	**0.0105**		**0.3199**	**0.3199**		**0.3199**	**0.3199**			**1,112.3562**	**0.1560**		**1,116.2550**

11.0 Vegetation

Arch coating

E=EFxFxA	where		
E=	Emissions	lb	
EF=	Emission factor	lb/sq ft	
EF=	Cvoc/454x3.785/180	or VOC x	4.63167E-05
F=	Factor for interior and exterior apportionment of surface area		
	interior=	0.75	
	exterior=	0.25	
A=	Painting surface area, sq, ft		
	residential, A=	2.7	times plan bldg area
	nonresidential, A=	2	times plan bldg area

Calculate area to be painted

	bldg square feet (sf)					
MF Residential	703000	factor A	paint sf	interior F	exterior F	**Lot 15 + UNEX**
SF Residential	0			0.75	0.25	
total	703000	2.7	1898100	1423575	0	
percent exterior paint	0					
Non res						
Neighborhood Commercial (LU	0					
Insittutional - Civic (LUP)	0					User data entry
? Other?	0					
Business Park (LUP)	0					
Elem School (Generated by Cal	0					
High School (Generated by Cal	0			0.75	0.25	
total	0	2	0	0	0	
percent exterior paint	0				0	Results to CalEEMod

If CalEEMod is not used
or for manual calc below
The results above are FxA

VOC - g/l	interior	exterior	Check applicable AQMD/APQD rules
residential	25	50	
non-residential	250	250	

Emissions - pounds

residential	1648	0
non-residential	0	0
Total		1648

Emission rate - pounds/day	19.2	Add to CalEEMod results if Arch coating contributes to maximum day
total painting days	86	**Lot 15 + UNEX**

sq ft/day	8174
sq ft/week	40872.09

9.15	CalEEMod 2021 max VOC w/o paint
28.3	Total

Arch coating

E=EFxFxA	where		
E=	Emissions	lb	
EF=	Emission factor	lb/sq ft	
EF=	Cvoc/454x3.785/180	or VOC x	4.63167E-05
F=	Factor for interior and exterior apportionment of surface area		
	interior=	0.75	
	exterior=	0.25	
A=	Painting surface area, sq, ft		
	residential, A=	2.7	times plan bldg area
	nonresidential, A=	2	times plan bldg area

Calculate area to be painted

	bldg square feet (sf)					
MF Residential	650000	factor A	paint sf	interior F	exterior F	**Warrren**
SF Residential	0			0.75	0.25	
total	650000	2.7	1755000	1316250	0	
percent exterior paint	0					
Non res						
Neighborhood Commercial (LU	0					
Insittutional - Civic (LUP)	0					User data entry
? Other?	0					
Business Park (LUP)	0					
Elem School (Generated by Cal	0					
High School (Generated by Cal	0			0.75	0.25	
total	0	2	0	0	0	
percent exterior paint	0				0	Results to CalEEMod

If CalEEMod is not used
or for manual calc below
The results above are FxA

VOC - g/l	interior	exterior	Check applicable AQMD/APQD rules
residential	25	50	
non-residential	250	250	

Emissions - pounds

residential	1524	0
non-residential	0	0
Total		1524

Emission rate - pounds/day 17.7 Add to CalEEMod results if Arch coating contributes to maximum day

total painting days 86 **Warren**

sq ft/day 7558
sq ft/week 37790.7

1.03 CalEEMod 2022 max VOC w/o paint
18.8 Total

UCLA LRDP Amendment & Student Housing - L15,UNEX,Warr

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	353.00	Dwelling Unit	1.70	353,000.00	1800
Apartments High Rise	650.00	Dwelling Unit	3.90	650,000.00	2350
Apartments High Rise	350.00	Dwelling Unit	1.00	350,000.00	1350

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1028.4	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - OpYear 2025
CO2 intensity for 33% renew in 2025

Land Use - L15-353 du;War 650 du; UNEX 350 du; all data from PD

Construction Phase - Const schedule per PD. One month assumed for all paving

Off-road Equipment - 3 sites grading

Off-road Equipment -

Off-road Equipment - 2 sites

Off-road Equipment - L15-UNEX 2 sites double default; no gen-site power; add drill rigs

Off-road Equipment - Concurrent utilities

Off-road Equipment - x

Off-road Equipment - War no gen; add drill rig

Off-road Equipment - 3 sites concurrent

Off-road Equipment - x

Off-road Equipment - Const equip per UCLA

Trips and VMT - Haul Truck trips per pD; Worker-vendor per appx A

Demolition -

Grading -

Architectural Coating - No exterior coating. Coating VOC calculated manually.

Vehicle Trips - No mobile emissions

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No woodstoves or fireplaces

Area Coating - No exterior paint
Reactivity adjusted VOC=25 g/L per UCLA reqts

Energy Use - Energy is default

Water And Wastewater - Water data from WSA; no change in landscape H2O

Construction Off-road Equipment Mitigation - All diesel const Tier3

Area Mitigation - Reactivity adjusted VOC

Energy Mitigation - 20% better than 2016 code = 42.4% better than 2013 baseline

Waste Mitigation -

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Emergency generators 0.5 hours/day, once/month

Stationary Sources - Process Boilers -

Solid Waste - All solid waste diverted from landfill by 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	913,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	913,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,739,825.00	0.00

tblArchitecturalCoating	ConstArea_Residential_Interior	2,739,825.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblAreaCoating	Area_EF_Residential_Interior	50	25
tblAreaCoating	Area_Residential_Exterior	913275	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblFireplaces	NumberGas	1,150.05	0.00
tblFireplaces	NumberNoFireplace	135.30	1,353.00
tblFireplaces	NumberWood	67.65	0.00
tblGrading	AcresOfGrading	22.00	64.50
tblGrading	MaterialExported	0.00	43,000.00
tblGrading	MaterialImported	0.00	1,300.00
tblLandUse	LotAcreage	5.65	1.00
tblLandUse	LotAcreage	5.69	1.70
tblLandUse	LotAcreage	10.48	3.90
tblLandUse	Population	1,001.00	1,350.00
tblLandUse	Population	1,010.00	1,800.00
tblLandUse	Population	1,859.00	2,350.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		L15-UNEX Building Construction
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1028.4
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	622.38	0.00
tblTripsAndVMT	HaulingTripNumber	875.00	1,312.00
tblTripsAndVMT	HaulingTripNumber	1,568.00	6,936.00
tblTripsAndVMT	HaulingTripNumber	5,538.00	4,280.00
tblTripsAndVMT	VendorTripNumber	145.00	75.00
tblTripsAndVMT	VendorTripNumber	145.00	69.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	33.00	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	45.00
tblTripsAndVMT	WorkerTripNumber	974.00	506.00
tblTripsAndVMT	WorkerTripNumber	974.00	468.00
tblVehicleTrips	ST_TR	4.98	0.00
tblVehicleTrips	SU_TR	3.65	0.00
tblVehicleTrips	WD_TR	4.20	0.00
tblWater	IndoorWaterUseRate	88,153,396.67	120,693,090.00
tblWater	OutdoorWaterUseRate	55,574,967.46	0.00
tblWoodstoves	NumberCatalytic	67.65	0.00
tblWoodstoves	NumberNoncatalytic	67.65	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	13.5247	138.3965	94.6470	0.2651	17.6064	5.0153	22.6217	6.1233	4.6459	10.7692			27,073.1758	3.9988	0.0000	27,173.1459
2019	13.5411	119.2302	102.2339	0.2615	17.3721	4.3975	21.7697	6.0658	4.0746	10.1404			26,569.1236	3.9434	0.0000	26,667.7083
2020	11.4036	75.2131	88.3756	0.2303	11.8089	3.1931	15.0020	3.1527	2.9613	6.1140			22,844.6696	3.1352	0.0000	22,923.0486
2021	13.5508	87.7664	113.7398	0.2844	14.1690	3.8042	17.9732	3.7789	3.5489	7.3279			28,116.8525	3.9437	0.0000	28,215.4440
2022	1.4187	4.3303	11.4502	0.0282	2.1796	0.2350	2.4146	0.5781	0.2336	0.8117			2,767.9386	0.1044	0.0000	2,770.5489
Maximum	**13.5508**	**138.3965**	**113.7398**	**0.2844**	**17.6064**	**5.0153**	**22.6217**	**6.1233**	**4.6459**	**10.7692**			**28,116.8525**	**3.9988**	**0.0000**	**28,215.4440**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	7.2812	94.1533	101.0809	0.2651	13.3766	3.0020	16.3785	4.2009	2.9894	7.1903			27,073.1758	3.9988	0.0000	27,173.1459
2019	8.5412	91.6548	109.5363	0.2615	13.1423	3.0517	16.1224	4.1434	3.0395	7.1119			26,569.1236	3.9434	0.0000	26,667.7083
2020	7.7537	64.3801	98.2382	0.2303	11.8089	2.6936	14.5025	3.1527	2.6833	5.8360			22,844.6696	3.1352	0.0000	22,923.0486
2021	9.1510	80.2657	127.0794	0.2844	14.1690	3.6559	17.8249	3.7789	3.6462	7.4251			28,116.8525	3.9437	0.0000	28,215.4439

2022	1.0318	4.1930	11.5004	0.0282	2.1796	0.2706	2.4503	0.5781	0.2693	0.8473			2,767.9386	0.1044	0.0000	2,770.5489
Maximum	**9.1510**	**94.1533**	**127.0794**	**0.2844**	**14.1690**	**3.6559**	**17.8249**	**4.2009**	**3.6462**	**7.4251**			**28,116.8525**	**3.9988**	**0.0000**	**28,215.4439**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**36.83**	**21.25**	**-9.01**	**0.00**	**13.40**	**23.86**	**15.67**	**19.52**	**18.34**	**19.20**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.0075	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925	0.0000	205.8031
Energy	0.4461	3.8124	1.6223	0.0243		0.3082	0.3082		0.3082	0.3082			4,866.8359	0.0933	0.0892	4,895.7570
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	2.1744	8.8294	5.5443	0.0105		0.3199	0.3199		0.3199	0.3199			1,112.3562	0.1560		1,116.2550
Total	**33.6280**	**13.9263**	**118.6850**	**0.0407**	**0.0000**	**1.2469**	**1.2469**	**0.0000**	**1.2469**	**1.2469**			**6,180.1833**	**0.4417**	**0.0892**	**6,217.8151**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.0075	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925	0.0000	205.8031

Energy	0.3389	2.8957	1.2322	0.0185		0.2341	0.2341		0.2341	0.2341			3,696.5801	0.0709	0.0678	3,718.5470
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	2.1744	8.8294	5.5443	0.0105		0.3199	0.3199		0.3199	0.3199			1,112.3562	0.1560		1,116.2550
Total	**33.5208**	**13.0096**	**118.2949**	**0.0348**	**0.0000**	**1.1728**	**1.1728**	**0.0000**	**1.1728**	**1.1728**			**5,009.9276**	**0.4193**	**0.0678**	**5,040.6051**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.32**	**6.58**	**0.33**	**14.38**	**0.00**	**5.94**	**5.94**	**0.00**	**5.94**	**5.94**	**0.00**	**0.00**	**18.94**	**5.08**	**24.05**	**18.93**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	UNEX Demolition	Demolition	8/1/2018	9/30/2018	5	43	
2	Warr Abate-Demo/L15 demo-grad/LIN grad	Demolition	10/1/2018	11/30/2018	5	45	
3	Warren Grading	Grading	12/1/2018	1/31/2019	5	44	
4	Sewer - utilities	Trenching	12/1/2018	5/31/2019	5	130	
5	L15-UNEX Building Construction	Building Construction	12/1/2018	4/30/2021	5	630	
6	War Building	Building Construction	2/1/2019	12/31/2021	5	761	
7	L15-UNEX Architectural Coating	Architectural Coating	2/1/2021	5/31/2021	5	86	
8	All paving	Paving	3/1/2021	3/31/2021	5	23	
9	Warren Architectural Coating	Architectural Coating	10/1/2021	1/31/2022	5	87	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
UNEX Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
UNEX Demolition	Excavators	3	8.00	158	0.38
UNEX Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Warr Abate-Demo/L15 demo-grad/UN grad	Concrete/Industrial Saws	2	8.00	81	0.73
Warr Abate-Demo/L15 demo-grad/UN grad	Excavators	5	8.00	158	0.38
Warr Abate-Demo/L15 demo-grad/UN grad	Graders	2	8.00	187	0.41
Warr Abate-Demo/L15 demo-grad/UN grad	Rubber Tired Dozers	4	8.00	247	0.40
Warren Grading	Excavators	2	8.00	158	0.38
Warren Grading	Graders	1	8.00	187	0.41
Warren Grading	Rubber Tired Dozers	1	8.00	247	0.40
Warren Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Sewer - utilities	Signal Boards	3	16.00	6	0.82
Sewer - utilities	Tractors/Loaders/Backhoes	3	7.00	97	0.37
L15-UNEX Building Construction	Bore/Drill Rigs	2	7.00	221	0.50
L15-UNEX Building Construction	Cranes	2	7.00	231	0.29
L15-UNEX Building Construction	Forklifts	6	8.00	89	0.20
L15-UNEX Building Construction	Generator Sets	0	8.00	84	0.74
L15-UNEX Building Construction	Tractors/Loaders/Backhoes	6	7.00	97	0.37
L15-UNEX Building Construction	Welders	2	8.00	46	0.45
War Building	Bore/Drill Rigs	1	7.00	221	0.50
War Building	Cranes	1	7.00	231	0.29
War Building	Forklifts	3	8.00	89	0.20
War Building	Generator Sets	0	8.00	84	0.74
War Building	Tractors/Loaders/Backhoes	3	7.00	97	0.37
War Building	Welders	1	8.00	46	0.45
L15-UNEX Architectural Coating	Air Compressors	4	6.00	78	0.48
All paving	Pavers	2	8.00	130	0.42
All paving	Paving Equipment	2	8.00	132	0.36

All paving	Rollers	2	8.00	80	0.38
Warren Architectural Coating	Air Compressors	2	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
UNEX Demolition	6	15.00	0.00	1,312.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warr Abate-Demo/L15 demo-grad/UN grad	13	25.00	0.00	6,936.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warren Grading	6	45.00	0.00	4,280.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Sewer - utilities	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Building Construction	18	506.00	75.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
War Building	9	468.00	69.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Architectural Coating	4	195.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
All paving	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warren Architectural Coating	2	195.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 UNEX Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.4047	0.0000	4.4047	0.6669	0.0000	0.6669			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048			3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**4.4047**	**1.9386**	**6.3433**	**0.6669**	**1.8048**	**2.4717**			**3,871.7665**	**1.0667**		**3,898.4344**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3105	9.9922	2.1820	0.0243	0.5334	0.0382	0.5717	0.1462	0.0366	0.1828			2,626.9388	0.1911		2,631.7162
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			177.0864	6.6600e-003		177.2530
Total	**0.4022**	**10.0615**	**2.9279**	**0.0261**	**0.7011**	**0.0397**	**0.7408**	**0.1907**	**0.0380**	**0.2286**			**2,804.0252**	**0.1978**		**2,808.9692**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9821	0.0000	1.9821	0.3001	0.0000	0.3001			0.0000			0.0000
Off-Road	0.9246	18.3130	24.6739	0.0388		0.8627	0.8627		0.8627	0.8627			3,871.7665	1.0667		3,898.4344
Total	**0.9246**	**18.3130**	**24.6739**	**0.0388**	**1.9821**	**0.8627**	**2.8448**	**0.3001**	**0.8627**	**1.1628**			**3,871.7665**	**1.0667**		**3,898.4344**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3105	9.9922	2.1820	0.0243	0.5334	0.0382	0.5717	0.1462	0.0366	0.1828			2,626.9388	0.1911		2,631.7162
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			177.0864	6.6600e-003		177.2530
Total	**0.4022**	**10.0615**	**2.9279**	**0.0261**	**0.7011**	**0.0397**	**0.7408**	**0.1907**	**0.0380**	**0.2286**			**2,804.0252**	**0.1978**		**2,808.9692**

3.3 Warr Abate-Demo/L15 demo-grad/UN grad - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.5424	0.0000	7.5424	1.1420	0.0000	1.1420			0.0000			0.0000
Off-Road	8.1882	87.8041	45.1618	0.0858		4.1904	4.1904		3.8979	3.8979			8,563.8186	2.3888		8,623.5385
Total	**8.1882**	**87.8041**	**45.1618**	**0.0858**	**7.5424**	**4.1904**	**11.7328**	**1.1420**	**3.8979**	**5.0398**			**8,563.8186**	**2.3888**		**8,623.5385**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5686	50.4770	11.0224	0.1228	2.6947	0.1931	2.8878	0.7387	0.1847	0.9234			13,270.3122	0.9654		13,294.4460
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1529	0.1154	1.2432	2.9700e-003	0.2794	2.4900e-003	0.2819	0.0741	2.3000e-003	0.0764			295.1440	0.0111		295.4217
Total	**1.7214**	**50.5924**	**12.2656**	**0.1258**	**2.9742**	**0.1956**	**3.1698**	**0.8128**	**0.1870**	**0.9998**			**13,565.4562**	**0.9765**		**13,589.8676**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3941	0.0000	3.3941	0.5139	0.0000	0.5139			0.0000			0.0000
Off-Road	2.0466	40.4435	52.4613	0.0858		1.8448	1.8448		1.8448	1.8448			8,563.8186	2.3888		8,623.5385
Total	**2.0466**	**40.4435**	**52.4613**	**0.0858**	**3.3941**	**1.8448**	**5.2389**	**0.5139**	**1.8448**	**2.3587**			**8,563.8186**	**2.3888**		**8,623.5385**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5686	50.4770	11.0224	0.1228	2.6947	0.1931	2.8878	0.7387	0.1847	0.9234			13,270.3122	0.9654		13,294.4460
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1529	0.1154	1.2432	2.9700e-003	0.2794	2.4900e-003	0.2819	0.0741	2.3000e-003	0.0764			295.1440	0.0111		295.4217
Total	**1.7214**	**50.5924**	**12.2656**	**0.1258**	**2.9742**	**0.1956**	**3.1698**	**0.8128**	**0.1870**	**0.9998**			**13,565.4562**	**0.9765**		**13,589.8676**

3.4 Warren Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6905	0.0000	7.6905	3.4953	0.0000	3.4953			0.0000			0.0000
Off-Road	2.7963	31.1387	17.5159	0.0317		1.5152	1.5152		1.3940	1.3940			3,194.8307	0.9946		3,219.6956
Total	**2.7963**	**31.1387**	**17.5159**	**0.0317**	**7.6905**	**1.5152**	**9.2057**	**3.4953**	**1.3940**	**4.8893**			**3,194.8307**	**0.9946**		**3,219.6956**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9899	31.8557	6.9562	0.0775	3.1092	0.1219	3.2310	0.8119	0.1166	0.9285			8,374.8235	0.6092		8,390.0542
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2752	0.2078	2.2377	5.3400e-003	0.5030	4.4800e-003	0.5075	0.1334	4.1300e-003	0.1375			531.2592	0.0200		531.7590
Total	**1.2651**	**32.0635**	**9.1939**	**0.0829**	**3.6122**	**0.1263**	**3.7385**	**0.9453**	**0.1207**	**1.0660**			**8,906.0827**	**0.6292**		**8,921.8132**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4607	0.0000	3.4607	1.5729	0.0000	1.5729			0.0000			0.0000
Off-Road	0.7774	15.5621	20.5666	0.0317		0.7526	0.7526		0.7526	0.7526			3,194.8307	0.9946		3,219.6956
Total	**0.7774**	**15.5621**	**20.5666**	**0.0317**	**3.4607**	**0.7526**	**4.2134**	**1.5729**	**0.7526**	**2.3255**			**3,194.8307**	**0.9946**		**3,219.6956**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9899	31.8557	6.9562	0.0775	3.1092	0.1219	3.2310	0.8119	0.1166	0.9285			8,374.8235	0.6092		8,390.0542
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2752	0.2078	2.2377	5.3400e-003	0.5030	4.4800e-003	0.5075	0.1334	4.1300e-003	0.1375			531.2592	0.0200		531.7590
Total	**1.2651**	**32.0635**	**9.1939**	**0.0829**	**3.6122**	**0.1263**	**3.7385**	**0.9453**	**0.1207**	**1.0660**			**8,906.0827**	**0.6292**		**8,921.8132**

3.4 Warren Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6905	0.0000	7.6905	3.4953	0.0000	3.4953			0.0000			0.0000
Off-Road	2.6084	28.6925	17.2539	0.0317		1.3707	1.3707		1.2610	1.2610			3,140.3905	0.9936		3,165.2302
Total	**2.6084**	**28.6925**	**17.2539**	**0.0317**	**7.6905**	**1.3707**	**9.0612**	**3.4953**	**1.2610**	**4.7563**			**3,140.3905**	**0.9936**		**3,165.2302**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9370	30.1905	6.7814	0.0764	2.8749	0.1114	2.9863	0.7544	0.1066	0.8610			8,266.7196	0.6012		8,281.7499
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2492	0.1830	1.9911	5.1600e-003	0.5030	4.3400e-003	0.5073	0.1334	4.0000e-003	0.1374			513.9589	0.0177		514.4009
Total	**1.1862**	**30.3735**	**8.7726**	**0.0816**	**3.3779**	**0.1157**	**3.4936**	**0.8878**	**0.1106**	**0.9983**			**8,780.6785**	**0.6189**		**8,796.1508**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4607	0.0000	3.4607	1.5729	0.0000	1.5729			0.0000			0.0000
Off-Road	0.7774	15.5621	20.5666	0.0317		0.7526	0.7526		0.7526	0.7526			3,140.3905	0.9936		3,165.2302
Total	**0.7774**	**15.5621**	**20.5666**	**0.0317**	**3.4607**	**0.7526**	**4.2134**	**1.5729**	**0.7526**	**2.3255**			**3,140.3905**	**0.9936**		**3,165.2302**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9370	30.1905	6.7814	0.0764	2.8749	0.1114	2.9863	0.7544	0.1066	0.8610			8,266.7196	0.6012		8,281.7499
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2492	0.1830	1.9911	5.1600e-003	0.5030	4.3400e-003	0.5073	0.1334	4.0000e-003	0.1374			513.9589	0.0177		514.4009
Total	**1.1862**	**30.3735**	**8.7726**	**0.0816**	**3.3779**	**0.1157**	**3.4936**	**0.8878**	**0.1106**	**0.9983**			**8,780.6785**	**0.6189**		**8,796.1508**

3.5 Sewer - utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0427	9.0595	7.9400	0.0123		0.5729	0.5729		0.5337	0.5337			1,116.9182	0.2863		1,124.0761
Total	**1.0427**	**9.0595**	**7.9400**	**0.0123**		**0.5729**	**0.5729**		**0.5337**	**0.5337**			**1,116.9182**	**0.2863**		**1,124.0761**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			177.0864	6.6600e-003		177.2530
Total	**0.0917**	**0.0693**	**0.7459**	**1.7800e-003**	**0.1677**	**1.4900e-003**	**0.1692**	**0.0445**	**1.3800e-003**	**0.0458**			**177.0864**	**6.6600e-003**		**177.2530**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1994	4.5528	6.1479	0.0123		0.3190	0.3190		0.3190	0.3190			1,116.9182	0.2863		1,124.0761
Total	**0.1994**	**4.5528**	**6.1479**	**0.0123**		**0.3190**	**0.3190**		**0.3190**	**0.3190**			**1,116.9182**	**0.2863**		**1,124.0761**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0917	0.0693	0.7459	1.7800e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			177.0864	6.6600e-003		177.2530
Total	**0.0917**	**0.0693**	**0.7459**	**1.7800e-003**	**0.1677**	**1.4900e-003**	**0.1692**	**0.0445**	**1.3800e-003**	**0.0458**			**177.0864**	**6.6600e-003**		**177.2530**

3.5 Sewer - utilities - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9553	8.2921	7.8512	0.0123		0.4934	0.4934		0.4607	0.4607			1,103.1787	0.2861		1,110.3321
Total	**0.9553**	**8.2921**	**7.8512**	**0.0123**		**0.4934**	**0.4934**		**0.4607**	**0.4607**			**1,103.1787**	**0.2861**		**1,110.3321**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458			171.3196	5.8900e-003		171.4670
Total	**0.0831**	**0.0610**	**0.6637**	**1.7200e-003**	**0.1677**	**1.4500e-003**	**0.1691**	**0.0445**	**1.3300e-003**	**0.0458**			**171.3196**	**5.8900e-003**		**171.4670**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1994	4.5528	6.1479	0.0123		0.3190	0.3190		0.3190	0.3190			1,103.1787	0.2861		1,110.3321
Total	**0.1994**	**4.5528**	**6.1479**	**0.0123**		**0.3190**	**0.3190**		**0.3190**	**0.3190**			**1,103.1787**	**0.2861**		**1,110.3321**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458			171.3196	5.8900e-003		171.4670
Total	**0.0831**	**0.0610**	**0.6637**	**1.7200e-003**	**0.1677**	**1.4500e-003**	**0.1691**	**0.0445**	**1.3300e-003**	**0.0458**			**171.3196**	**5.8900e-003**		**171.4670**

3.6 L15-UNEX Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.8753	45.8965	31.3269	0.0571		2.6832	2.6832		2.4867	2.4867			5,648.4196	1.7088		5,691.1405
Total	**4.8753**	**45.8965**	**31.3269**	**0.0571**		**2.6832**	**2.6832**		**2.4867**	**2.4867**			**5,648.4196**	**1.7088**		**5,691.1405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3596	9.2127	2.7625	0.0193	0.4801	0.0658	0.5459	0.1382	0.0630	0.2012			2,056.1239	0.1484		2,059.8328
Worker	3.0941	2.3362	25.1619	0.0600	5.6559	0.0504	5.7063	1.5000	0.0465	1.5465			5,973.7144	0.2248		5,979.3347
Total	**3.4536**	**11.5489**	**27.9244**	**0.0793**	**6.1360**	**0.1162**	**6.2523**	**1.6382**	**0.1095**	**1.7477**			**8,029.8383**	**0.3732**		**8,039.1675**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,648.4196	1.7088		5,691.1405
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,648.4196**	**1.7088**		**5,691.1405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3596	9.2127	2.7625	0.0193	0.4801	0.0658	0.5459	0.1382	0.0630	0.2012			2,056.1239	0.1484		2,059.8328
Worker	3.0941	2.3362	25.1619	0.0600	5.6559	0.0504	5.7063	1.5000	0.0465	1.5465			5,973.7144	0.2248		5,979.3347
Total	**3.4536**	**11.5489**	**27.9244**	**0.0793**	**6.1360**	**0.1162**	**6.2523**	**1.6382**	**0.1095**	**1.7477**			**8,029.8383**	**0.3732**		**8,039.1675**

3.6 L15-UNEX Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.3233	41.0624	30.4985	0.0571		2.3113	2.3113		2.1423	2.1423			5,559.7961	1.6971		5,602.2245
Total	**4.3233**	**41.0624**	**30.4985**	**0.0571**		**2.3113**	**2.3113**		**2.1423**	**2.1423**			**5,559.7961**	**1.6971**		**5,602.2245**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3250	8.6914	2.5386	0.0191	0.4801	0.0563	0.5364	0.1382	0.0538	0.1920			2,034.5783	0.1429		2,038.1515
Worker	2.8021	2.0573	22.3893	0.0581	5.6559	0.0488	5.7047	1.5000	0.0449	1.5449			5,779.1819	0.1988		5,784.1522
Total	**3.1271**	**10.7487**	**24.9279**	**0.0771**	**6.1360**	**0.1050**	**6.2411**	**1.6382**	**0.0988**	**1.7370**			**7,813.7602**	**0.3417**		**7,822.3037**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,559.7961	1.6971		5,602.2245
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,559.7961**	**1.6971**		**5,602.2245**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3250	8.6914	2.5386	0.0191	0.4801	0.0563	0.5364	0.1382	0.0538	0.1920			2,034.5783	0.1429		2,038.1515
Worker	2.8021	2.0573	22.3893	0.0581	5.6559	0.0488	5.7047	1.5000	0.0449	1.5449			5,779.1819	0.1988		5,784.1522
Total	**3.1271**	**10.7487**	**24.9279**	**0.0771**	**6.1360**	**0.1050**	**6.2411**	**1.6382**	**0.0988**	**1.7370**			**7,813.7602**	**0.3417**		**7,822.3037**

3.6 L15-UNEX Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9272	37.5788	29.9272	0.0571		2.0192	2.0192		1.8716	1.8716			5,452.2190	1.6905		5,494.4812
Total	**3.9272**	**37.5788**	**29.9272**	**0.0571**		**2.0192**	**2.0192**		**1.8716**	**1.8716**			**5,452.2190**	**1.6905**		**5,494.4812**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2789	7.9763	2.3054	0.0189	0.4802	0.0382	0.5183	0.1382	0.0365	0.1747			2,020.8680	0.1351		2,024.2463
Worker	2.5858	1.8341	20.2912	0.0563	5.6559	0.0473	5.7032	1.5000	0.0436	1.5435			5,603.5472	0.1766		5,607.9626
Total	**2.8646**	**9.8104**	**22.5965**	**0.0752**	**6.1360**	**0.0854**	**6.2215**	**1.6382**	**0.0801**	**1.7183**			**7,624.4151**	**0.3118**		**7,632.2090**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,452.2190	1.6905		5,494.4812
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,452.2190**	**1.6905**		**5,494.4812**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2789	7.9763	2.3054	0.0189	0.4802	0.0382	0.5183	0.1382	0.0365	0.1747			2,020.8680	0.1351		2,024.2463
Worker	2.5858	1.8341	20.2912	0.0563	5.6559	0.0473	5.7032	1.5000	0.0436	1.5435			5,603.5472	0.1766		5,607.9626
Total	**2.8646**	**9.8104**	**22.5965**	**0.0752**	**6.1360**	**0.0854**	**6.2215**	**1.6382**	**0.0801**	**1.7183**			**7,624.4151**	**0.3118**		**7,632.2090**

3.6 L15-UNEX Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5388	33.8217	29.4104	0.0572		1.7421	1.7421		1.6146	1.6146			5,456.7679	1.6847		5,498.8843
Total	**3.5388**	**33.8217**	**29.4104**	**0.0572**		**1.7421**	**1.7421**		**1.6146**	**1.6146**			**5,456.7679**	**1.6847**		**5,498.8843**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2393	7.2667	2.1058	0.0188	0.4802	0.0154	0.4955	0.1383	0.0147	0.1529			2,005.0914	0.1294		2,008.3275
Worker	2.4127	1.6503	18.6337	0.0545	5.6559	0.0457	5.7016	1.5000	0.0421	1.5421			5,425.5905	0.1597		5,429.5819
Total	**2.6520**	**8.9170**	**20.7395**	**0.0732**	**6.1361**	**0.0611**	**6.1971**	**1.6382**	**0.0568**	**1.6950**			**7,430.6820**	**0.2891**		**7,437.9094**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0572		1.6862	1.6862		1.6862	1.6862			5,456.7679	1.6847		5,498.8843
Total	**1.4940**	**30.3568**	**36.5023**	**0.0572**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,456.7679**	**1.6847**		**5,498.8843**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2393	7.2667	2.1058	0.0188	0.4802	0.0154	0.4955	0.1383	0.0147	0.1529			2,005.0914	0.1294		2,008.3275
Worker	2.4127	1.6503	18.6337	0.0545	5.6559	0.0457	5.7016	1.5000	0.0421	1.5421			5,425.5905	0.1597		5,429.5819
Total	**2.6520**	**8.9170**	**20.7395**	**0.0732**	**6.1361**	**0.0611**	**6.1971**	**1.6382**	**0.0568**	**1.6950**			**7,430.6820**	**0.2891**		**7,437.9094**

3.7 War Building - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1616	20.5312	15.2493	0.0285		1.1556	1.1556		1.0712	1.0712			2,779.8980	0.8486		2,801.1123
Total	**2.1616**	**20.5312**	**15.2493**	**0.0285**		**1.1556**	**1.1556**		**1.0712**	**1.0712**			**2,779.8980**	**0.8486**		**2,801.1123**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2990	7.9961	2.3355	0.0176	0.4417	0.0518	0.4935	0.1272	0.0495	0.1767			1,871.8121	0.1315		1,875.0994
Worker	2.5917	1.9028	20.7079	0.0537	5.2311	0.0451	5.2762	1.3873	0.0416	1.4289			5,345.1722	0.1839		5,349.7692
Total	**2.8907**	**9.8989**	**23.0434**	**0.0712**	**5.6729**	**0.0969**	**5.7697**	**1.5145**	**0.0911**	**1.6056**			**7,216.9843**	**0.3154**		**7,224.8686**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0285		0.8431	0.8431		0.8431	0.8431			2,779.8980	0.8486		2,801.1123
Total	**0.7470**	**15.1784**	**18.2511**	**0.0285**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,779.8980**	**0.8486**		**2,801.1123**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2990	7.9961	2.3355	0.0176	0.4417	0.0518	0.4935	0.1272	0.0495	0.1767			1,871.8121	0.1315		1,875.0994
Worker	2.5917	1.9028	20.7079	0.0537	5.2311	0.0451	5.2762	1.3873	0.0416	1.4289			5,345.1722	0.1839		5,349.7692
Total	**2.8907**	**9.8989**	**23.0434**	**0.0712**	**5.6729**	**0.0969**	**5.7697**	**1.5145**	**0.0911**	**1.6056**			**7,216.9843**	**0.3154**		**7,224.8686**

3.7 War Building - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9636	18.7894	14.9636	0.0286		1.0096	1.0096		0.9358	0.9358			2,726.1095	0.8452		2,747.2406
Total	**1.9636**	**18.7894**	**14.9636**	**0.0286**		**1.0096**	**1.0096**		**0.9358**	**0.9358**			**2,726.1095**	**0.8452**		**2,747.2406**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2566	7.3382	2.1210	0.0174	0.4417	0.0351	0.4768	0.1272	0.0336	0.1608			1,859.1986	0.1243		1,862.3066
Worker	2.3916	1.6964	18.7673	0.0520	5.2311	0.0437	5.2749	1.3873	0.0403	1.4276			5,182.7274	0.1634		5,186.8113
Total	**2.6481**	**9.0345**	**20.8883**	**0.0695**	**5.6729**	**0.0788**	**5.7517**	**1.5145**	**0.0739**	**1.5884**			**7,041.9260**	**0.2877**		**7,049.1179**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0286		0.8431	0.8431		0.8431	0.8431			2,726.1095	0.8452		2,747.2406
Total	**0.7470**	**15.1784**	**18.2511**	**0.0286**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,726.1095**	**0.8452**		**2,747.2406**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2566	7.3382	2.1210	0.0174	0.4417	0.0351	0.4768	0.1272	0.0336	0.1608			1,859.1986	0.1243		1,862.3066
Worker	2.3916	1.6964	18.7673	0.0520	5.2311	0.0437	5.2749	1.3873	0.0403	1.4276			5,182.7274	0.1634		5,186.8113
Total	**2.6481**	**9.0345**	**20.8883**	**0.0695**	**5.6729**	**0.0788**	**5.7517**	**1.5145**	**0.0739**	**1.5884**			**7,041.9260**	**0.2877**		**7,049.1179**

3.7 War Building - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7694	16.9109	14.7052	0.0286		0.8711	0.8711		0.8073	0.8073			2,728.3839	0.8423		2,749.4422
Total	**1.7694**	**16.9109**	**14.7052**	**0.0286**		**0.8711**	**0.8711**		**0.8073**	**0.8073**			**2,728.3839**	**0.8423**		**2,749.4422**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2202	6.6853	1.9373	0.0173	0.4418	0.0141	0.4559	0.1272	0.0135	0.1407			1,844.6841	0.1191		1,847.6613
Worker	2.2315	1.5264	17.2344	0.0504	5.2311	0.0423	5.2734	1.3873	0.0389	1.4263			5,018.1351	0.1477		5,021.8267
Total	**2.4517**	**8.2117**	**19.1717**	**0.0676**	**5.6729**	**0.0564**	**5.7293**	**1.5145**	**0.0525**	**1.5670**			**6,862.8192**	**0.2668**		**6,869.4880**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0286		0.8431	0.8431		0.8431	0.8431			2,728.3839	0.8423		2,749.4422
Total	**0.7470**	**15.1784**	**18.2511**	**0.0286**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,728.3839**	**0.8423**		**2,749.4422**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2202	6.6853	1.9373	0.0173	0.4418	0.0141	0.4559	0.1272	0.0135	0.1407			1,844.6841	0.1191		1,847.6613
Worker	2.2315	1.5264	17.2344	0.0504	5.2311	0.0423	5.2734	1.3873	0.0389	1.4263			5,018.1351	0.1477		5,021.8267
Total	**2.4517**	**8.2117**	**19.1717**	**0.0676**	**5.6729**	**0.0564**	**5.7293**	**1.5145**	**0.0525**	**1.5670**			**6,862.8192**	**0.2668**		**6,869.4880**

3.8 L15-UNEX Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.8756	6.1074	7.2702	0.0119		0.3764	0.3764		0.3764	0.3764			1,125.7922	0.0773		1,127.7237
Total	**0.8756**	**6.1074**	**7.2702**	**0.0119**		**0.3764**	**0.3764**		**0.3764**	**0.3764**			**1,125.7922**	**0.0773**		**1,127.7237**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.9298	0.6360	7.1810	0.0210	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,090.8896	0.0615		2,092.4278
Total	**0.9298**	**0.6360**	**7.1810**	**0.0210**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,090.8896**	**0.0615**		**2,092.4278**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2377	5.4279	7.3297	0.0119		0.3804	0.3804		0.3804	0.3804			1,125.7922	0.0773		1,127.7237
Total	**0.2377**	**5.4279**	**7.3297**	**0.0119**		**0.3804**	**0.3804**		**0.3804**	**0.3804**			**1,125.7922**	**0.0773**		**1,127.7237**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.9298	0.6360	7.1810	0.0210	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,090.8896	0.0615		2,092.4278
Total	**0.9298**	**0.6360**	**7.1810**	**0.0210**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,090.8896**	**0.0615**		**2,092.4278**

3.9 All paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235			2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2556**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**			**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	6.3800e-003	0.1938	0.0562	5.0000e-004	0.0128	4.1000e-004	0.0132	3.6900e-003	3.9000e-004	4.0800e-003			53.4691	3.4500e-003		53.5554
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457			160.8377	4.7300e-003		160.9560
Total	**0.0779**	**0.2427**	**0.6085**	**2.1100e-003**	**0.1805**	**1.7600e-003**	**0.1822**	**0.0482**	**1.6400e-003**	**0.0498**			**214.3068**	**8.1800e-003**		**214.5114**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093			2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5609**	**11.2952**	**17.2957**	**0.0228**		**0.6093**	**0.6093**		**0.6093**	**0.6093**			**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	6.3800e-003	0.1938	0.0562	5.0000e-004	0.0128	4.1000e-004	0.0132	3.6900e-003	3.9000e-004	4.0800e-003			53.4691	3.4500e-003		53.5554
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457			160.8377	4.7300e-003		160.9560
Total	**0.0779**	**0.2427**	**0.6085**	**2.1100e-003**	**0.1805**	**1.7600e-003**	**0.1822**	**0.0482**	**1.6400e-003**	**0.0498**			**214.3068**	**8.1800e-003**		**214.5114**

3.10 Warren Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5837	4.0716	4.8468	7.9200e-003		0.2509	0.2509		0.2509	0.2509			750.5281	0.0515		751.8158
Total	**0.5837**	**4.0716**	**4.8468**	**7.9200e-003**		**0.2509**	**0.2509**		**0.2509**	**0.2509**			**750.5281**	**0.0515**		**751.8158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.9298	0.6360	7.1810	0.0210	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,090.8896	0.0615		2,092.4278
Total	**0.9298**	**0.6360**	**7.1810**	**0.0210**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,090.8896**	**0.0615**		**2,092.4278**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536			750.5281	0.0515		751.8158
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**			**750.5281**	**0.0515**		**751.8158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.9298	0.6360	7.1810	0.0210	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,090.8896	0.0615		2,092.4278
Total	**0.9298**	**0.6360**	**7.1810**	**0.0210**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,090.8896**	**0.0615**		**2,092.4278**

3.10 Warren Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5454	3.7560	4.8363	7.9200e-003		0.2179	0.2179		0.2179	0.2179			750.5281	0.0489		751.7497
Total	**0.5454**	**3.7560**	**4.8363**	**7.9200e-003**		**0.2179**	**0.2179**		**0.2179**	**0.2179**			**750.5281**	**0.0489**		**751.7497**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8733	0.5744	6.6139	0.0202	2.1796	0.0171	2.1967	0.5781	0.0157	0.5938			2,017.4104	0.0556		2,018.7992
Total	**0.8733**	**0.5744**	**6.6139**	**0.0202**	**2.1796**	**0.0171**	**2.1967**	**0.5781**	**0.0157**	**0.5938**			**2,017.4104**	**0.0556**		**2,018.7992**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536			750.5281	0.0489		751.7497
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**			**750.5281**	**0.0489**		**751.7497**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8733	0.5744	6.6139	0.0202	2.1796	0.0171	2.1967	0.5781	0.0157	0.5938			2,017.4104	0.0556		2,018.7992
Total	**0.8733**	**0.5744**	**6.6139**	**0.0202**	**2.1796**	**0.0171**	**2.1967**	**0.5781**	**0.0157**	**0.5938**			**2,017.4104**	**0.0556**		**2,018.7992**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments High Rise	0.00	0.00	0.00		
Apartments High Rise	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.3389	2.8957	1.2322	0.0185		0.2341	0.2341		0.2341	0.2341			3,696.5801	0.0709	0.0678	3,718.5470
NaturalGas Unmitigated	0.4461	3.8124	1.6223	0.0243		0.3082	0.3082		0.3082	0.3082			4,866.8359	0.0933	0.0892	4,895.7570

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	10701.3	0.1154	0.9862	0.4197	6.2900e-003		0.0797	0.0797		0.0797	0.0797			1,258.9745	0.0241	0.0231	1,266.4560
Apartments High Rise	10793	0.1164	0.9947	0.4233	6.3500e-003		0.0804	0.0804		0.0804	0.0804			1,269.7658	0.0243	0.0233	1,277.3113
Apartments High Rise	19873.8	0.2143	1.8315	0.7794	0.0117		0.1481	0.1481		0.1481	0.1481			2,338.0956	0.0448	0.0429	2,351.9897
Total		**0.4461**	**3.8124**	**1.6223**	**0.0243**		**0.3082**	**0.3082**		**0.3082**	**0.3082**			**4,866.8359**	**0.0933**	**0.0892**	**4,895.7570**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	15.0951	0.1628	1.3911	0.5920	8.8800e-003		0.1125	0.1125		0.1125	0.1125			1,775.8885	0.0340	0.0326	1,786.4417
Apartments High Rise	8.1281	0.0877	0.7491	0.3188	4.7800e-003		0.0606	0.0606		0.0606	0.0606			956.2476	0.0183	0.0175	961.9301
Apartments High Rise	8.19777	0.0884	0.7555	0.3215	4.8200e-003		0.0611	0.0611		0.0611	0.0611			964.4440	0.0185	0.0177	970.1752
Total		**0.3389**	**2.8957**	**1.2322**	**0.0185**		**0.2341**	**0.2341**		**0.2341**	**0.2341**			**3,696.5801**	**0.0709**	**0.0678**	**3,718.5470**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.0075	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925	0.0000	205.8031
Unmitigated	31.0075	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925	0.0000	205.8031

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.7894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	3.3483	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925		205.8031
Total	**31.0075**	**1.2846**	**111.5185**	**5.8900e-003**		**0.6188**	**0.6188**		**0.6188**	**0.6188**			**200.9913**	**0.1925**	**0.0000**	**205.8031**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.7894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	3.3483	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925		205.8031
Total	**31.0075**	**1.2846**	**111.5185**	**5.8900e-003**		**0.6188**	**0.6188**		**0.6188**	**0.6188**			**200.9913**	**0.1925**	**0.0000**	**205.8031**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	6	650	0.73	Diesel
Emergency Generator	1	0.5	6	750	0.73	Diesel
Emergency Generator	1	0.5	6	1250	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (600 - 750 HP)	0.5334	1.4907	1.3599	2.5600e-003		0.0785	0.0785		0.0785	0.0785			272.8421	0.0383		273.7984
Emergency Generator - Diesel (750 - 9999 HP)	1.6411	7.3388	4.1844	7.8900e-003		0.2414	0.2414		0.2414	0.2414			839.5141	0.1177		842.4566
Total	**2.1744**	**8.8294**	**5.5443**	**0.0105**		**0.3199**	**0.3199**		**0.3199**	**0.3199**			**1,112.3562**	**0.1560**		**1,116.2550**

11.0 Vegetation

UCLA LRDP Amendment & Student Housing - L15,UNEX,Warr

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	353.00	Dwelling Unit	1.70	353,000.00	1800
Apartments High Rise	650.00	Dwelling Unit	3.90	650,000.00	2350
Apartments High Rise	350.00	Dwelling Unit	1.00	350,000.00	1350

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1028.4	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - OpYear 2025
CO2 intensity for 33% renew in 2025

Land Use - L15-353 du;War 650 du; UNEX 350 du; all data from PD

Construction Phase - Const schedule per PD. One month assumed for all paving

Off-road Equipment - 3 sites grading

Off-road Equipment -

Off-road Equipment - 2 sites

Off-road Equipment - L15-UNEX 2 sites double default; no gen-site power; add drill rigs

Off-road Equipment - Concurrent utilities

Off-road Equipment - x

Off-road Equipment - War no gen; add drill rig

Off-road Equipment - 3 sites concurrent

Off-road Equipment - x

Off-road Equipment - Const equip per UCLA

Trips and VMT - Haul Truck trips per pD; Worker-vendor per appx A

Demolition -

Grading -

Architectural Coating - No exterior coating. Coating VOC calculated manually.

Vehicle Trips - No mobile emissions

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No woodstoves or fireplaces

Area Coating - No exterior paint
Reactivity adjusted VOC=25 g/L per UCLA reqts

Energy Use - Energy is default

Water And Wastewater - Water data from WSA; no change in landscape H2O

Construction Off-road Equipment Mitigation - All diesel const Tier3

Area Mitigation - Reactivity adjusted VOC

Energy Mitigation - 20% better than 2016 code = 42.4% better than 2013 baseline

Waste Mitigation -

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Emergency generators 0.5 hours/day, once/month

Stationary Sources - Process Boilers -

Solid Waste - All solid waste diverted from landfill by 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	913,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	913,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,739,825.00	0.00

tblArchitecturalCoating	ConstArea_Residential_Interior	2,739,825.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblAreaCoating	Area_EF_Residential_Interior	50	25
tblAreaCoating	Area_Residential_Exterior	913275	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblFireplaces	NumberGas	1,150.05	0.00
tblFireplaces	NumberNoFireplace	135.30	1,353.00
tblFireplaces	NumberWood	67.65	0.00
tblGrading	AcresOfGrading	22.00	64.50
tblGrading	MaterialExported	0.00	43,000.00
tblGrading	MaterialImported	0.00	1,300.00
tblLandUse	LotAcreage	5.65	1.00
tblLandUse	LotAcreage	5.69	1.70
tblLandUse	LotAcreage	10.48	3.90
tblLandUse	Population	1,001.00	1,350.00
tblLandUse	Population	1,010.00	1,800.00
tblLandUse	Population	1,859.00	2,350.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		L15-UNEX Building Construction
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1028.4
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	622.38	0.00
tblTripsAndVMT	HaulingTripNumber	875.00	1,312.00
tblTripsAndVMT	HaulingTripNumber	1,568.00	6,936.00
tblTripsAndVMT	HaulingTripNumber	5,538.00	4,280.00
tblTripsAndVMT	VendorTripNumber	145.00	75.00
tblTripsAndVMT	VendorTripNumber	145.00	69.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	33.00	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	45.00
tblTripsAndVMT	WorkerTripNumber	974.00	506.00
tblTripsAndVMT	WorkerTripNumber	974.00	468.00
tblVehicleTrips	ST_TR	4.98	0.00
tblVehicleTrips	SU_TR	3.65	0.00
tblVehicleTrips	WD_TR	4.20	0.00
tblWater	IndoorWaterUseRate	88,153,396.67	120,693,090.00
tblWater	OutdoorWaterUseRate	55,574,967.46	0.00
tblWoodstoves	NumberCatalytic	67.65	0.00
tblWoodstoves	NumberNoncatalytic	67.65	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	13.1518	137.7034	96.3666	0.2712	17.6064	5.0120	22.6183	6.1233	4.6427	10.7660			27,685.9902	3.9814	0.0000	27,785.5238
2019	12.9792	118.5978	105.7069	0.2674	17.3721	4.3946	21.7667	6.0658	4.0718	10.1376			27,169.1298	3.9258	0.0000	27,267.2754
2020	10.8854	74.8746	91.5503	0.2381	11.8089	3.1919	15.0008	3.1527	2.9602	6.1129			23,622.8235	3.1403	0.0000	23,701.3316
2021	12.9585	87.4226	117.4332	0.2934	14.1690	3.8032	17.9723	3.7789	3.5480	7.3270			29,014.4472	3.9518	0.0000	29,113.2424
2022	1.3284	4.2749	12.0825	0.0294	2.1796	0.2350	2.4146	0.5781	0.2336	0.8117			2,893.0172	0.1080	0.0000	2,895.7171
Maximum	**13.1518**	**137.7034**	**117.4332**	**0.2934**	**17.6064**	**5.0120**	**22.6183**	**6.1233**	**4.6427**	**10.7660**			**29,014.4472**	**3.9814**	**0.0000**	**29,113.2424**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	6.9083	93.4488	102.8005	0.2712	13.3766	2.9986	16.3752	4.2009	2.9862	7.1871			27,685.9902	3.9814	0.0000	27,785.5238
2019	7.9793	91.0224	113.0093	0.2674	13.1423	3.0500	16.1195	4.1434	3.0379	7.1091			27,169.1298	3.9258	0.0000	27,267.2754
2020	7.2355	64.0416	101.4128	0.2381	11.8089	2.6925	14.5014	3.1527	2.6822	5.8349			23,622.8235	3.1403	0.0000	23,701.3316
2021	8.5587	79.9219	130.7729	0.2934	14.1690	3.6550	17.8240	3.7789	3.6453	7.4242			29,014.4471	3.9518	0.0000	29,113.2424
2022	0.9415	4.1376	12.1327	0.0294	2.1796	0.2706	2.4503	0.5781	0.2693	0.8473			2,893.0172	0.1080	0.0000	2,895.7171
Maximum	**8.5587**	**93.4488**	**130.7729**	**0.2934**	**14.1690**	**3.6550**	**17.8240**	**4.2009**	**3.6453**	**7.4242**			**29,014.4471**	**3.9814**	**0.0000**	**29,113.2424**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**38.36**	**21.35**	**-8.74**	**0.00**	**13.40**	**23.86**	**15.67**	**19.52**	**18.35**	**19.21**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.0075	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925	0.0000	205.8031
Energy	0.4461	3.8124	1.6223	0.0243		0.3082	0.3082		0.3082	0.3082			4,866.8359	0.0933	0.0892	4,895.7570
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	2.1744	8.8294	5.5443	0.0105		0.3199	0.3199		0.3199	0.3199			1,112.3562	0.1560		1,116.2550
Total	**33.6280**	**13.9263**	**118.6850**	**0.0407**	**0.0000**	**1.2469**	**1.2469**	**0.0000**	**1.2469**	**1.2469**			**6,180.1833**	**0.4417**	**0.0892**	**6,217.8151**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.0075	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925	0.0000	205.8031
Energy	0.3389	2.8957	1.2322	0.0185		0.2341	0.2341		0.2341	0.2341			3,696.5801	0.0709	0.0678	3,718.5470
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	2.1744	8.8294	5.5443	0.0105		0.3199	0.3199		0.3199	0.3199			1,112.3562	0.1560		1,116.2550
Total	**33.5208**	**13.0096**	**118.2949**	**0.0348**	**0.0000**	**1.1728**	**1.1728**	**0.0000**	**1.1728**	**1.1728**			**5,009.9276**	**0.4193**	**0.0678**	**5,040.6051**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.32**	**6.58**	**0.33**	**14.38**	**0.00**	**5.94**	**5.94**	**0.00**	**5.94**	**5.94**	**0.00**	**0.00**	**18.94**	**5.08**	**24.05**	**18.93**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	UNEX Demolition	Demolition	8/1/2018	9/30/2018	5	43	
2	Warr Abate-Demo/L15 demo-grad/LIN grad	Demolition	10/1/2018	11/30/2018	5	45	
3	Warren Grading	Grading	12/1/2018	1/31/2019	5	44	
4	Sewer - utilities	Trenching	12/1/2018	5/31/2019	5	130	
5	L15-UNEX Building Construction	Building Construction	12/1/2018	4/30/2021	5	630	
6	War Building	Building Construction	2/1/2019	12/31/2021	5	761	
7	L15-UNEX Architectural Coating	Architectural Coating	2/1/2021	5/31/2021	5	86	
8	All paving	Paving	3/1/2021	3/31/2021	5	23	
9	Warren Architectural Coating	Architectural Coating	10/1/2021	1/31/2022	5	87	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
UNEX Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
UNEX Demolition	Excavators	3	8.00	158	0.38
UNEX Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Warr Abate-Demo/L15 demo-grad/UN grad	Concrete/Industrial Saws	2	8.00	81	0.73
Warr Abate-Demo/L15 demo-grad/UN grad	Excavators	5	8.00	158	0.38
Warr Abate-Demo/L15 demo-grad/UN grad	Graders	2	8.00	187	0.41
Warr Abate-Demo/L15 demo-grad/UN grad	Rubber Tired Dozers	4	8.00	247	0.40
Warren Grading	Excavators	2	8.00	158	0.38
Warren Grading	Graders	1	8.00	187	0.41
Warren Grading	Rubber Tired Dozers	1	8.00	247	0.40
Warren Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Sewer - utilities	Signal Boards	3	16.00	6	0.82
Sewer - utilities	Tractors/Loaders/Backhoes	3	7.00	97	0.37
L15-UNEX Building Construction	Bore/Drill Rigs	2	7.00	221	0.50
L15-UNEX Building Construction	Cranes	2	7.00	231	0.29
L15-UNEX Building Construction	Forklifts	6	8.00	89	0.20
L15-UNEX Building Construction	Generator Sets	0	8.00	84	0.74
L15-UNEX Building Construction	Tractors/Loaders/Backhoes	6	7.00	97	0.37
L15-UNEX Building Construction	Welders	2	8.00	46	0.45
War Building	Bore/Drill Rigs	1	7.00	221	0.50
War Building	Cranes	1	7.00	231	0.29
War Building	Forklifts	3	8.00	89	0.20

War Building	Generator Sets	0	8.00	84	0.74
War Building	Tractors/Loaders/Backhoes	3	7.00	97	0.37
War Building	Welders	1	8.00	46	0.45
L15-UNEX Architectural Coating	Air Compressors	4	6.00	78	0.48
All paving	Pavers	2	8.00	130	0.42
All paving	Paving Equipment	2	8.00	132	0.36
All paving	Rollers	2	8.00	80	0.38
Warren Architectural Coating	Air Compressors	2	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
UNEX Demolition	6	15.00	0.00	1,312.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warr Abate-Demo/L15 demo-grad/UN grad	13	25.00	0.00	6,936.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warren Grading	6	45.00	0.00	4,280.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Sewer - utilities	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Building Construction	18	506.00	75.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
War Building	9	468.00	69.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Architectural Coating	4	195.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
All paving	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warren Architectural Coating	2	195.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 UNEX Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.4047	0.0000	4.4047	0.6669	0.0000	0.6669			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048			3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**4.4047**	**1.9386**	**6.3433**	**0.6669**	**1.8048**	**2.4717**			**3,871.7665**	**1.0667**		**3,898.4344**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3029	9.8572	2.0396	0.0247	0.5334	0.0375	0.5709	0.1462	0.0359	0.1821			2,671.6426	0.1839		2,676.2406
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			188.0535	7.0500e-003		188.2298
Total	**0.3857**	**9.9198**	**2.8497**	**0.0266**	**0.7011**	**0.0390**	**0.7401**	**0.1907**	**0.0373**	**0.2279**			**2,859.6961**	**0.1910**		**2,864.4704**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9821	0.0000	1.9821	0.3001	0.0000	0.3001			0.0000			0.0000
Off-Road	0.9246	18.3130	24.6739	0.0388		0.8627	0.8627		0.8627	0.8627			3,871.7665	1.0667		3,898.4344
Total	**0.9246**	**18.3130**	**24.6739**	**0.0388**	**1.9821**	**0.8627**	**2.8448**	**0.3001**	**0.8627**	**1.1628**			**3,871.7665**	**1.0667**		**3,898.4344**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3029	9.8572	2.0396	0.0247	0.5334	0.0375	0.5709	0.1462	0.0359	0.1821			2,671.6426	0.1839		2,676.2406
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			188.0535	7.0500e-003		188.2298
Total	**0.3857**	**9.9198**	**2.8497**	**0.0266**	**0.7011**	**0.0390**	**0.7401**	**0.1907**	**0.0373**	**0.2279**			**2,859.6961**	**0.1910**		**2,864.4704**

3.3 Warr Abate-Demo/L15 demo-grad/UN grad - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.5424	0.0000	7.5424	1.1420	0.0000	1.1420			0.0000			0.0000
Off-Road	8.1882	87.8041	45.1618	0.0858		4.1904	4.1904		3.8979	3.8979			8,563.8186	2.3888		8,623.5385
Total	**8.1882**	**87.8041**	**45.1618**	**0.0858**	**7.5424**	**4.1904**	**11.7328**	**1.1420**	**3.8979**	**5.0398**			**8,563.8186**	**2.3888**		**8,623.5385**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5299	49.7950	10.3033	0.1249	2.6947	0.1894	2.8842	0.7387	0.1812	0.9199			13,496.1392	0.9291		13,519.3665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1381	0.1042	1.3502	3.1500e-003	0.2794	2.4900e-003	0.2819	0.0741	2.3000e-003	0.0764			313.4225	0.0118		313.7163
Total	**1.6680**	**49.8992**	**11.6535**	**0.1281**	**2.9742**	**0.1919**	**3.1661**	**0.8128**	**0.1835**	**0.9963**			**13,809.5617**	**0.9409**		**13,833.0829**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3941	0.0000	3.3941	0.5139	0.0000	0.5139			0.0000			0.0000
Off-Road	2.0466	40.4435	52.4613	0.0858		1.8448	1.8448		1.8448	1.8448			8,563.8186	2.3888		8,623.5385
Total	**2.0466**	**40.4435**	**52.4613**	**0.0858**	**3.3941**	**1.8448**	**5.2389**	**0.5139**	**1.8448**	**2.3587**			**8,563.8186**	**2.3888**		**8,623.5385**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5299	49.7950	10.3033	0.1249	2.6947	0.1894	2.8842	0.7387	0.1812	0.9199			13,496.1392	0.9291		13,519.3665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1381	0.1042	1.3502	3.1500e-003	0.2794	2.4900e-003	0.2819	0.0741	2.3000e-003	0.0764			313.4225	0.0118		313.7163
Total	**1.6680**	**49.8992**	**11.6535**	**0.1281**	**2.9742**	**0.1919**	**3.1661**	**0.8128**	**0.1835**	**0.9963**			**13,809.5617**	**0.9409**		**13,833.0829**

3.4 Warren Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6905	0.0000	7.6905	3.4953	0.0000	3.4953			0.0000			0.0000
Off-Road	2.7963	31.1387	17.5159	0.0317		1.5152	1.5152		1.3940	1.3940			3,194.8307	0.9946		3,219.6956
Total	**2.7963**	**31.1387**	**17.5159**	**0.0317**	**7.6905**	**1.5152**	**9.2057**	**3.4953**	**1.3940**	**4.8893**			**3,194.8307**	**0.9946**		**3,219.6956**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9655	31.4253	6.5024	0.0788	3.1092	0.1195	3.2287	0.8119	0.1144	0.9263			8,517.3417	0.5864		8,532.0004
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2486	0.1876	2.4303	5.6700e-003	0.5030	4.4800e-003	0.5075	0.1334	4.1300e-003	0.1375			564.1604	0.0212		564.6894
Total	**1.2141**	**31.6130**	**8.9327**	**0.0845**	**3.6122**	**0.1240**	**3.7362**	**0.9453**	**0.1185**	**1.0638**			**9,081.5021**	**0.6075**		**9,096.6898**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4607	0.0000	3.4607	1.5729	0.0000	1.5729			0.0000			0.0000
Off-Road	0.7774	15.5621	20.5666	0.0317		0.7526	0.7526		0.7526	0.7526			3,194.8307	0.9946		3,219.6956
Total	**0.7774**	**15.5621**	**20.5666**	**0.0317**	**3.4607**	**0.7526**	**4.2134**	**1.5729**	**0.7526**	**2.3255**			**3,194.8307**	**0.9946**		**3,219.6956**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9655	31.4253	6.5024	0.0788	3.1092	0.1195	3.2287	0.8119	0.1144	0.9263			8,517.3417	0.5864		8,532.0004
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2486	0.1876	2.4303	5.6700e-003	0.5030	4.4800e-003	0.5075	0.1334	4.1300e-003	0.1375			564.1604	0.0212		564.6894
Total	**1.2141**	**31.6130**	**8.9327**	**0.0845**	**3.6122**	**0.1240**	**3.7362**	**0.9453**	**0.1185**	**1.0638**			**9,081.5021**	**0.6075**		**9,096.6898**

3.4 Warren Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6905	0.0000	7.6905	3.4953	0.0000	3.4953			0.0000			0.0000
Off-Road	2.6084	28.6925	17.2539	0.0317		1.3707	1.3707		1.2610	1.2610			3,140.3905	0.9936		3,165.2302
Total	**2.6084**	**28.6925**	**17.2539**	**0.0317**	**7.6905**	**1.3707**	**9.0612**	**3.4953**	**1.2610**	**4.7563**			**3,140.3905**	**0.9936**		**3,165.2302**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9141	29.7930	6.3522	0.0777	2.8749	0.1093	2.9843	0.7544	0.1046	0.8590			8,409.3416	0.5791		8,423.8201
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2248	0.1652	2.1697	5.4800e-003	0.5030	4.3400e-003	0.5073	0.1334	4.0000e-003	0.1374			545.8288	0.0188		546.2975
Total	**1.1389**	**29.9582**	**8.5219**	**0.0832**	**3.3779**	**0.1137**	**3.4916**	**0.8878**	**0.1086**	**0.9964**			**8,955.1704**	**0.5979**		**8,970.1176**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4607	0.0000	3.4607	1.5729	0.0000	1.5729			0.0000			0.0000
Off-Road	0.7774	15.5621	20.5666	0.0317		0.7526	0.7526		0.7526	0.7526			3,140.3905	0.9936		3,165.2302
Total	**0.7774**	**15.5621**	**20.5666**	**0.0317**	**3.4607**	**0.7526**	**4.2134**	**1.5729**	**0.7526**	**2.3255**			**3,140.3905**	**0.9936**		**3,165.2302**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9141	29.7930	6.3522	0.0777	2.8749	0.1093	2.9843	0.7544	0.1046	0.8590			8,409.3416	0.5791		8,423.8201
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2248	0.1652	2.1697	5.4800e-003	0.5030	4.3400e-003	0.5073	0.1334	4.0000e-003	0.1374			545.8288	0.0188		546.2975
Total	**1.1389**	**29.9582**	**8.5219**	**0.0832**	**3.3779**	**0.1137**	**3.4916**	**0.8878**	**0.1086**	**0.9964**			**8,955.1704**	**0.5979**		**8,970.1176**

3.5 Sewer - utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0427	9.0595	7.9400	0.0123		0.5729	0.5729		0.5337	0.5337			1,116.9182	0.2863		1,124.0761
Total	**1.0427**	**9.0595**	**7.9400**	**0.0123**		**0.5729**	**0.5729**		**0.5337**	**0.5337**			**1,116.9182**	**0.2863**		**1,124.0761**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			188.0535	7.0500e-003		188.2298
Total	**0.0829**	**0.0625**	**0.8101**	**1.8900e-003**	**0.1677**	**1.4900e-003**	**0.1692**	**0.0445**	**1.3800e-003**	**0.0458**			**188.0535**	**7.0500e-003**		**188.2298**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1994	4.5528	6.1479	0.0123		0.3190	0.3190		0.3190	0.3190			1,116.9182	0.2863		1,124.0761
Total	**0.1994**	**4.5528**	**6.1479**	**0.0123**		**0.3190**	**0.3190**		**0.3190**	**0.3190**			**1,116.9182**	**0.2863**		**1,124.0761**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458			188.0535	7.0500e-003		188.2298
Total	**0.0829**	**0.0625**	**0.8101**	**1.8900e-003**	**0.1677**	**1.4900e-003**	**0.1692**	**0.0445**	**1.3800e-003**	**0.0458**			**188.0535**	**7.0500e-003**		**188.2298**

3.5 Sewer - utilities - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9553	8.2921	7.8512	0.0123		0.4934	0.4934		0.4607	0.4607			1,103.1787	0.2861		1,110.3321
Total	**0.9553**	**8.2921**	**7.8512**	**0.0123**		**0.4934**	**0.4934**		**0.4607**	**0.4607**			**1,103.1787**	**0.2861**		**1,110.3321**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458			181.9429	6.2500e-003		182.0992
Total	**0.0749**	**0.0551**	**0.7233**	**1.8300e-003**	**0.1677**	**1.4500e-003**	**0.1691**	**0.0445**	**1.3300e-003**	**0.0458**			**181.9429**	**6.2500e-003**		**182.0992**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1994	4.5528	6.1479	0.0123		0.3190	0.3190		0.3190	0.3190			1,103.1787	0.2861		1,110.3321
Total	**0.1994**	**4.5528**	**6.1479**	**0.0123**		**0.3190**	**0.3190**		**0.3190**	**0.3190**			**1,103.1787**	**0.2861**		**1,110.3321**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458			181.9429	6.2500e-003		182.0992
Total	**0.0749**	**0.0551**	**0.7233**	**1.8300e-003**	**0.1677**	**1.4500e-003**	**0.1691**	**0.0445**	**1.3300e-003**	**0.0458**			**181.9429**	**6.2500e-003**		**182.0992**

3.6 L15-UNEX Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.8753	45.8965	31.3269	0.0571		2.6832	2.6832		2.4867	2.4867			5,648.4196	1.7088		5,691.1405
Total	**4.8753**	**45.8965**	**31.3269**	**0.0571**		**2.6832**	**2.6832**		**2.4867**	**2.4867**			**5,648.4196**	**1.7088**		**5,691.1405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3450	9.1920	2.5132	0.0198	0.4801	0.0648	0.5449	0.1382	0.0620	0.2002			2,112.5956	0.1391		2,116.0733
Worker	2.7955	2.1096	27.3278	0.0638	5.6559	0.0504	5.7063	1.5000	0.0465	1.5465			6,343.6706	0.2379		6,349.6188
Total	**3.1406**	**11.3016**	**29.8410**	**0.0836**	**6.1360**	**0.1152**	**6.2512**	**1.6382**	**0.1085**	**1.7467**			**8,456.2662**	**0.3770**		**8,465.6921**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,648.4196	1.7088		5,691.1405
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,648.4196**	**1.7088**		**5,691.1405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3450	9.1920	2.5132	0.0198	0.4801	0.0648	0.5449	0.1382	0.0620	0.2002			2,112.5956	0.1391		2,116.0733
Worker	2.7955	2.1096	27.3278	0.0638	5.6559	0.0504	5.7063	1.5000	0.0465	1.5465			6,343.6706	0.2379		6,349.6188
Total	**3.1406**	**11.3016**	**29.8410**	**0.0836**	**6.1360**	**0.1152**	**6.2512**	**1.6382**	**0.1085**	**1.7467**			**8,456.2662**	**0.3770**		**8,465.6921**

3.6 L15-UNEX Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.3233	41.0624	30.4985	0.0571		2.3113	2.3113		2.1423	2.1423			5,559.7961	1.6971		5,602.2245
Total	**4.3233**	**41.0624**	**30.4985**	**0.0571**		**2.3113**	**2.3113**		**2.1423**	**2.1423**			**5,559.7961**	**1.6971**		**5,602.2245**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3117	8.6797	2.3031	0.0196	0.4801	0.0553	0.5355	0.1382	0.0529	0.1912			2,091.1096	0.1340		2,094.4598
Worker	2.5278	1.8578	24.3975	0.0617	5.6559	0.0488	5.7047	1.5000	0.0449	1.5449			6,137.5416	0.2108		6,142.8120
Total	**2.8394**	**10.5375**	**26.7006**	**0.0813**	**6.1360**	**0.1041**	**6.2401**	**1.6382**	**0.0979**	**1.7361**			**8,228.6512**	**0.3448**		**8,237.2717**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,559.7961	1.6971		5,602.2245
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,559.7961**	**1.6971**		**5,602.2245**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.3117	8.6797	2.3031	0.0196	0.4801	0.0553	0.5355	0.1382	0.0529	0.1912			2,091.1096	0.1340		2,094.4598
Worker	2.5278	1.8578	24.3975	0.0617	5.6559	0.0488	5.7047	1.5000	0.0449	1.5449			6,137.5416	0.2108		6,142.8120
Total	**2.8394**	**10.5375**	**26.7006**	**0.0813**	**6.1360**	**0.1041**	**6.2401**	**1.6382**	**0.0979**	**1.7361**			**8,228.6512**	**0.3448**		**8,237.2717**

3.6 L15-UNEX Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9272	37.5788	29.9272	0.0571		2.0192	2.0192		1.8716	1.8716			5,452.2190	1.6905		5,494.4812
Total	**3.9272**	**37.5788**	**29.9272**	**0.0571**		**2.0192**	**2.0192**		**1.8716**	**1.8716**			**5,452.2190**	**1.6905**		**5,494.4812**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2668	7.9779	2.0903	0.0195	0.4802	0.0376	0.5177	0.1382	0.0359	0.1742			2,077.6852	0.1268		2,080.8549
Worker	2.3286	1.6566	22.1549	0.0598	5.6559	0.0473	5.7032	1.5000	0.0436	1.5435			5,951.1311	0.1876		5,955.8218
Total	**2.5954**	**9.6345**	**24.2452**	**0.0792**	**6.1360**	**0.0848**	**6.2209**	**1.6382**	**0.0795**	**1.7177**			**8,028.8163**	**0.3144**		**8,036.6767**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0571		1.6862	1.6862		1.6862	1.6862			5,452.2190	1.6905		5,494.4812
Total	**1.4940**	**30.3568**	**36.5023**	**0.0571**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,452.2190**	**1.6905**		**5,494.4812**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2668	7.9779	2.0903	0.0195	0.4802	0.0376	0.5177	0.1382	0.0359	0.1742			2,077.6852	0.1268		2,080.8549
Worker	2.3286	1.6566	22.1549	0.0598	5.6559	0.0473	5.7032	1.5000	0.0436	1.5435			5,951.1311	0.1876		5,955.8218
Total	**2.5954**	**9.6345**	**24.2452**	**0.0792**	**6.1360**	**0.0848**	**6.2209**	**1.6382**	**0.0795**	**1.7177**			**8,028.8163**	**0.3144**		**8,036.6767**

3.6 L15-UNEX Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5388	33.8217	29.4104	0.0572		1.7421	1.7421		1.6146	1.6146			5,456.7679	1.6847		5,498.8843
Total	**3.5388**	**33.8217**	**29.4104**	**0.0572**		**1.7421**	**1.7421**		**1.6146**	**1.6146**			**5,456.7679**	**1.6847**		**5,498.8843**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2280	7.2817	1.9036	0.0193	0.4802	0.0149	0.4951	0.1383	0.0142	0.1525			2,061.6047	0.1215		2,064.6411
Worker	2.1690	1.4909	20.3804	0.0579	5.6559	0.0457	5.7016	1.5000	0.0421	1.5421			5,762.1755	0.1698		5,766.4200
Total	**2.3970**	**8.7726**	**22.2840**	**0.0771**	**6.1361**	**0.0606**	**6.1966**	**1.6382**	**0.0563**	**1.6946**			**7,823.7802**	**0.2912**		**7,831.0611**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4940	30.3568	36.5023	0.0572		1.6862	1.6862		1.6862	1.6862			5,456.7679	1.6847		5,498.8843
Total	**1.4940**	**30.3568**	**36.5023**	**0.0572**		**1.6862**	**1.6862**		**1.6862**	**1.6862**			**5,456.7679**	**1.6847**		**5,498.8843**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2280	7.2817	1.9036	0.0193	0.4802	0.0149	0.4951	0.1383	0.0142	0.1525			2,061.6047	0.1215		2,064.6411
Worker	2.1690	1.4909	20.3804	0.0579	5.6559	0.0457	5.7016	1.5000	0.0421	1.5421			5,762.1755	0.1698		5,766.4200
Total	**2.3970**	**8.7726**	**22.2840**	**0.0771**	**6.1361**	**0.0606**	**6.1966**	**1.6382**	**0.0563**	**1.6946**			**7,823.7802**	**0.2912**		**7,831.0611**

3.7 War Building - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1616	20.5312	15.2493	0.0285		1.1556	1.1556		1.0712	1.0712			2,779.8980	0.8486		2,801.1123
Total	**2.1616**	**20.5312**	**15.2493**	**0.0285**		**1.1556**	**1.1556**		**1.0712**	**1.0712**			**2,779.8980**	**0.8486**		**2,801.1123**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2867	7.9853	2.1189	0.0180	0.4417	0.0509	0.4926	0.1272	0.0487	0.1759			1,923.8209	0.1233		1,926.9030
Worker	2.3379	1.7183	22.5653	0.0570	5.2311	0.0451	5.2762	1.3873	0.0416	1.4289			5,676.6195	0.1950		5,681.4941
Total	**2.6247**	**9.7036**	**24.6841**	**0.0751**	**5.6729**	**0.0960**	**5.7689**	**1.5145**	**0.0903**	**1.6048**			**7,600.4404**	**0.3183**		**7,608.3971**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0285		0.8431	0.8431		0.8431	0.8431			2,779.8980	0.8486		2,801.1123
Total	**0.7470**	**15.1784**	**18.2511**	**0.0285**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,779.8980**	**0.8486**		**2,801.1123**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2867	7.9853	2.1189	0.0180	0.4417	0.0509	0.4926	0.1272	0.0487	0.1759			1,923.8209	0.1233		1,926.9030
Worker	2.3379	1.7183	22.5653	0.0570	5.2311	0.0451	5.2762	1.3873	0.0416	1.4289			5,676.6195	0.1950		5,681.4941
Total	**2.6247**	**9.7036**	**24.6841**	**0.0751**	**5.6729**	**0.0960**	**5.7689**	**1.5145**	**0.0903**	**1.6048**			**7,600.4404**	**0.3183**		**7,608.3971**

3.7 War Building - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9636	18.7894	14.9636	0.0286		1.0096	1.0096		0.9358	0.9358			2,726.1095	0.8452		2,747.2406
Total	**1.9636**	**18.7894**	**14.9636**	**0.0286**		**1.0096**	**1.0096**		**0.9358**	**0.9358**			**2,726.1095**	**0.8452**		**2,747.2406**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2454	7.3397	1.9231	0.0179	0.4417	0.0346	0.4763	0.1272	0.0331	0.1602			1,911.4704	0.1166		1,914.3865
Worker	2.1538	1.5322	20.4911	0.0553	5.2311	0.0437	5.2749	1.3873	0.0403	1.4276			5,504.2082	0.1735		5,508.5466
Total	**2.3992**	**8.8719**	**22.4142**	**0.0732**	**5.6729**	**0.0783**	**5.7512**	**1.5145**	**0.0733**	**1.5878**			**7,415.6786**	**0.2902**		**7,422.9331**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0286		0.8431	0.8431		0.8431	0.8431			2,726.1095	0.8452		2,747.2406
Total	**0.7470**	**15.1784**	**18.2511**	**0.0286**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,726.1095**	**0.8452**		**2,747.2406**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2454	7.3397	1.9231	0.0179	0.4417	0.0346	0.4763	0.1272	0.0331	0.1602			1,911.4704	0.1166		1,914.3865
Worker	2.1538	1.5322	20.4911	0.0553	5.2311	0.0437	5.2749	1.3873	0.0403	1.4276			5,504.2082	0.1735		5,508.5466
Total	**2.3992**	**8.8719**	**22.4142**	**0.0732**	**5.6729**	**0.0783**	**5.7512**	**1.5145**	**0.0733**	**1.5878**			**7,415.6786**	**0.2902**		**7,422.9331**

3.7 War Building - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7694	16.9109	14.7052	0.0286		0.8711	0.8711		0.8073	0.8073			2,728.3839	0.8423		2,749.4422
Total	**1.7694**	**16.9109**	**14.7052**	**0.0286**		**0.8711**	**0.8711**		**0.8073**	**0.8073**			**2,728.3839**	**0.8423**		**2,749.4422**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2097	6.6992	1.7513	0.0177	0.4418	0.0137	0.4555	0.1272	0.0131	0.1403			1,896.6764	0.1117		1,899.4698
Worker	2.0061	1.3789	18.8498	0.0535	5.2311	0.0423	5.2734	1.3873	0.0389	1.4263			5,329.4429	0.1570		5,333.3687
Total	**2.2158**	**8.0781**	**20.6012**	**0.0712**	**5.6729**	**0.0560**	**5.7289**	**1.5145**	**0.0520**	**1.5666**			**7,226.1193**	**0.2688**		**7,232.8385**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7470	15.1784	18.2511	0.0286		0.8431	0.8431		0.8431	0.8431			2,728.3839	0.8423		2,749.4422
Total	**0.7470**	**15.1784**	**18.2511**	**0.0286**		**0.8431**	**0.8431**		**0.8431**	**0.8431**			**2,728.3839**	**0.8423**		**2,749.4422**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.2097	6.6992	1.7513	0.0177	0.4418	0.0137	0.4555	0.1272	0.0131	0.1403			1,896.6764	0.1117		1,899.4698
Worker	2.0061	1.3789	18.8498	0.0535	5.2311	0.0423	5.2734	1.3873	0.0389	1.4263			5,329.4429	0.1570		5,333.3687
Total	**2.2158**	**8.0781**	**20.6012**	**0.0712**	**5.6729**	**0.0560**	**5.7289**	**1.5145**	**0.0520**	**1.5666**			**7,226.1193**	**0.2688**		**7,232.8385**

3.8 L15-UNEX Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.8756	6.1074	7.2702	0.0119		0.3764	0.3764		0.3764	0.3764			1,125.7922	0.0773		1,127.7237
Total	**0.8756**	**6.1074**	**7.2702**	**0.0119**		**0.3764**	**0.3764**		**0.3764**	**0.3764**			**1,125.7922**	**0.0773**		**1,127.7237**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8359	0.5745	7.8541	0.0223	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,220.6012	0.0654		2,222.2370
Total	**0.8359**	**0.5745**	**7.8541**	**0.0223**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,220.6012**	**0.0654**		**2,222.2370**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2377	5.4279	7.3297	0.0119		0.3804	0.3804		0.3804	0.3804			1,125.7922	0.0773		1,127.7237
Total	**0.2377**	**5.4279**	**7.3297**	**0.0119**		**0.3804**	**0.3804**		**0.3804**	**0.3804**			**1,125.7922**	**0.0773**		**1,127.7237**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8359	0.5745	7.8541	0.0223	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,220.6012	0.0654		2,222.2370
Total	**0.8359**	**0.5745**	**7.8541**	**0.0223**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,220.6012**	**0.0654**		**2,222.2370**

3.9 All paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235			2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2556**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**			**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	6.0800e-003	0.1942	0.0508	5.1000e-004	0.0128	4.0000e-004	0.0132	3.6900e-003	3.8000e-004	4.0700e-003			54.9761	3.2400e-003		55.0571
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457			170.8155	5.0300e-003		170.9413
Total	**0.0704**	**0.2384**	**0.6549**	**2.2200e-003**	**0.1805**	**1.7500e-003**	**0.1822**	**0.0482**	**1.6300e-003**	**0.0498**			**225.7916**	**8.2700e-003**		**225.9984**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.6093	0.6093		0.6093	0.6093			2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5609**	**11.2952**	**17.2957**	**0.0228**		**0.6093**	**0.6093**		**0.6093**	**0.6093**			**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	6.0800e-003	0.1942	0.0508	5.1000e-004	0.0128	4.0000e-004	0.0132	3.6900e-003	3.8000e-004	4.0700e-003			54.9761	3.2400e-003		55.0571
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457			170.8155	5.0300e-003		170.9413
Total	**0.0704**	**0.2384**	**0.6549**	**2.2200e-003**	**0.1805**	**1.7500e-003**	**0.1822**	**0.0482**	**1.6300e-003**	**0.0498**			**225.7916**	**8.2700e-003**		**225.9984**

3.10 Warren Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5837	4.0716	4.8468	7.9200e-003		0.2509	0.2509		0.2509	0.2509			750.5281	0.0515		751.8158
Total	**0.5837**	**4.0716**	**4.8468**	**7.9200e-003**		**0.2509**	**0.2509**		**0.2509**	**0.2509**			**750.5281**	**0.0515**		**751.8158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8359	0.5745	7.8541	0.0223	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,220.6012	0.0654		2,222.2370
Total	**0.8359**	**0.5745**	**7.8541**	**0.0223**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,220.6012**	**0.0654**		**2,222.2370**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536			750.5281	0.0515		751.8158
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**			**750.5281**	**0.0515**		**751.8158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.8359	0.5745	7.8541	0.0223	2.1796	0.0176	2.1973	0.5781	0.0162	0.5943			2,220.6012	0.0654		2,222.2370
Total	**0.8359**	**0.5745**	**7.8541**	**0.0223**	**2.1796**	**0.0176**	**2.1973**	**0.5781**	**0.0162**	**0.5943**			**2,220.6012**	**0.0654**		**2,222.2370**

3.10 Warren Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5454	3.7560	4.8363	7.9200e-003		0.2179	0.2179		0.2179	0.2179			750.5281	0.0489		751.7497
Total	**0.5454**	**3.7560**	**4.8363**	**7.9200e-003**		**0.2179**	**0.2179**		**0.2179**	**0.2179**			**750.5281**	**0.0489**		**751.7497**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.7830	0.5190	7.2463	0.0215	2.1796	0.0171	2.1967	0.5781	0.0157	0.5938			2,142.4890	0.0591		2,143.9674
Total	**0.7830**	**0.5190**	**7.2463**	**0.0215**	**2.1796**	**0.0171**	**2.1967**	**0.5781**	**0.0157**	**0.5938**			**2,142.4890**	**0.0591**		**2,143.9674**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536			750.5281	0.0489		751.7497
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**			**750.5281**	**0.0489**		**751.7497**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.7830	0.5190	7.2463	0.0215	2.1796	0.0171	2.1967	0.5781	0.0157	0.5938			2,142.4890	0.0591		2,143.9674
Total	**0.7830**	**0.5190**	**7.2463**	**0.0215**	**2.1796**	**0.0171**	**2.1967**	**0.5781**	**0.0157**	**0.5938**			**2,142.4890**	**0.0591**		**2,143.9674**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments High Rise	0.00	0.00	0.00		
Apartments High Rise	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.3389	2.8957	1.2322	0.0185		0.2341	0.2341		0.2341	0.2341			3,696.5801	0.0709	0.0678	3,718.5470
NaturalGas Unmitigated	0.4461	3.8124	1.6223	0.0243		0.3082	0.3082		0.3082	0.3082			4,866.8359	0.0933	0.0892	4,895.7570

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	10701.3	0.1154	0.9862	0.4197	6.2900e-003		0.0797	0.0797		0.0797	0.0797			1,258.9745	0.0241	0.0231	1,266.4560
Apartments High Rise	10793	0.1164	0.9947	0.4233	6.3500e-003		0.0804	0.0804		0.0804	0.0804			1,269.7658	0.0243	0.0233	1,277.3113
Apartments High Rise	19873.8	0.2143	1.8315	0.7794	0.0117		0.1481	0.1481		0.1481	0.1481			2,338.0956	0.0448	0.0429	2,351.9897
Total		**0.4461**	**3.8124**	**1.6223**	**0.0243**		**0.3082**	**0.3082**		**0.3082**	**0.3082**			**4,866.8359**	**0.0933**	**0.0892**	**4,895.7570**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	15.0951	0.1628	1.3911	0.5920	8.8800e-003		0.1125	0.1125		0.1125	0.1125			1,775.8885	0.0340	0.0326	1,786.4417
Apartments High Rise	8.1281	0.0877	0.7491	0.3188	4.7800e-003		0.0606	0.0606		0.0606	0.0606			956.2476	0.0183	0.0175	961.9301
Apartments High Rise	8.19777	0.0884	0.7555	0.3215	4.8200e-003		0.0611	0.0611		0.0611	0.0611			964.4440	0.0185	0.0177	970.1752
Total		**0.3389**	**2.8957**	**1.2322**	**0.0185**		**0.2341**	**0.2341**		**0.2341**	**0.2341**			**3,696.5801**	**0.0709**	**0.0678**	**3,718.5470**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.0075	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925	0.0000	205.8031
Unmitigated	31.0075	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925	0.0000	205.8031

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.7894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	3.3483	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925		205.8031
Total	**31.0075**	**1.2846**	**111.5185**	**5.8900e-003**		**0.6188**	**0.6188**		**0.6188**	**0.6188**			**200.9913**	**0.1925**	**0.0000**	**205.8031**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	26.7894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	3.3483	1.2846	111.5185	5.8900e-003		0.6188	0.6188		0.6188	0.6188			200.9913	0.1925		205.8031
Total	**31.0075**	**1.2846**	**111.5185**	**5.8900e-003**		**0.6188**	**0.6188**		**0.6188**	**0.6188**			**200.9913**	**0.1925**	**0.0000**	**205.8031**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	6	650	0.73	Diesel
Emergency Generator	1	0.5	6	750	0.73	Diesel
Emergency Generator	1	0.5	6	1250	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (600 - 750 HP)	0.5334	1.4907	1.3599	2.5600e-003		0.0785	0.0785		0.0785	0.0785			272.8421	0.0383		273.7984
Emergency Generator - Diesel (750 - 9999 HP)	1.6411	7.3388	4.1844	7.8900e-003		0.2414	0.2414		0.2414	0.2414			839.5141	0.1177		842.4566
Total	**2.1744**	**8.8294**	**5.5443**	**0.0105**		**0.3199**	**0.3199**		**0.3199**	**0.3199**			**1,112.3562**	**0.1560**		**1,116.2550**

11.0 Vegetation

UCLA LRDP Amendment & Student Housing - Bradley Drake

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	240.00	Dwelling Unit	1.30	240,000.00	800
Apartments Mid Rise	122.00	Dwelling Unit	1.10	122,000.00	600

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1028.4	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Start 11/1/2022
CO2 intensity with 33% renew in 2025

Land Use - Bradley 122 du, 1.1 ac. 600 pop; Drake 240 du, 1.3 ac, 800 pop

Construction Phase - Const schedule per PD. One month assumed for all paving

Off-road Equipment - 3 sites grading

Off-road Equipment - 1 roller

Off-road Equipment - 2 projects paint

Off-road Equipment - No generator needed; add drill rig

Off-road Equipment - Add 2 excavators

Off-road Equipment - No generator needed; add drill rig

Off-road Equipment - Drake-sidewalk demo; minimal site prep/grading

Trips and VMT - Haul Truck trips per UCLA; Worker-vendor per appx A

Demolition -

Grading -

Architectural Coating - No exterior coating.
Reactivity adjusted VOC

Vehicle Trips - No added vehicle trips

Woodstoves - No woodstoves or fireplaces

Area Coating - No exterior coating
Reactivity adjusted VOC

Energy Use - x

Water And Wastewater - Water data from WSA
No added landscape water

Construction Off-road Equipment Mitigation - All equip Tier 3

Energy Mitigation - 20% better than 2016 code = 42.4% better than 2013

Waste Mitigation - 70% solid waste diversion per current practice

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Emerg generators 0.5 hrs once per month

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	244,350.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblAreaCoating	Area_EF_Residential_Interior	50	25
tblAreaCoating	Area_Residential_Exterior	244350	0
tblConstructionPhase	NumDays	10.00	65.00
tblConstructionPhase	NumDays	220.00	629.00
tblConstructionPhase	NumDays	220.00	500.00
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	6.00	66.00
tblConstructionPhase	NumDays	10.00	21.00
tblGrading	AcresOfGrading	33.00	3.00

tblLandUse	LotAcreage	3.87	1.30
tblLandUse	LotAcreage	3.21	1.10
tblLandUse	Population	686.00	800.00
tblLandUse	Population	349.00	600.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1028.4
tblProjectCharacteristics	OperationalYear	2018	2025
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	400.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	500.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	22.00
tblTripsAndVMT	HaulingTripNumber	0.00	8,200.00
tblVehicleTrips	ST_TR	4.98	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	SU_TR	3.65	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	WD_TR	4.20	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblWater	IndoorWaterUseRate	15,636,966.15	18,204,010.00
tblWater	IndoorWaterUseRate	7,948,791.13	12,781,935.00
tblWater	OutdoorWaterUseRate	9,858,087.35	0.00
tblWater	OutdoorWaterUseRate	5,011,194.41	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.1219	11.1134	9.7657	0.0199	0.1533	0.4765	0.6298	0.0407	0.4504	0.4911			1,922.9997	0.4159	0.0000	1,933.3967
2023	5.6218	54.5223	44.5296	0.1852	11.5218	1.3717	12.8935	4.7862	1.2768	6.0630			19,065.9300	2.4702	0.0000	19,127.6859
2024	5.3044	31.0477	41.8861	0.1250	6.3341	1.0302	7.3643	1.6912	0.9708	2.6620			12,204.2769	1.6312	0.0000	12,245.0559
2025	19.3347	37.9545	55.8161	0.1504	7.0830	1.3071	8.3901	1.8898	1.2318	3.1215			14,639.5461	2.1148	0.0000	14,692.4152
Maximum	**19.3347**	**54.5223**	**55.8161**	**0.1852**	**11.5218**	**1.3717**	**12.8935**	**4.7862**	**1.2768**	**6.0630**			**19,065.9300**	**2.4702**	**0.0000**	**19,127.6859**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.4813	9.1521	11.9359	0.0199	0.1533	0.5333	0.6866	0.0407	0.5332	0.5739			1,922.9997	0.4159	0.0000	1,933.3967
2023	4.0083	54.2776	53.1322	0.1852	7.8189	1.6086	9.3843	2.7638	1.6048	4.3256			19,065.9300	2.4702	0.0000	19,127.6859
2024	3.8916	36.9673	49.7746	0.1250	6.3341	1.6078	7.9419	1.6912	1.6041	3.2952			12,204.2769	1.6312	0.0000	12,245.0559
2025	17.5869	47.0581	65.0953	0.1504	7.0830	2.2287	9.3117	1.8898	2.2245	4.1143			14,639.5461	2.1148	0.0000	14,692.4152
Maximum	**17.5869**	**54.2776**	**65.0953**	**0.1852**	**7.8189**	**2.2287**	**9.3843**	**2.7638**	**2.2245**	**4.3256**			**19,065.9300**	**2.4702**	**0.0000**	**19,127.6859**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**17.25**	**-9.52**	**-18.38**	**0.00**	**14.76**	**-42.84**	**6.67**	**24.05**	**-51.83**	**0.23**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Energy	0.1194	1.0200	0.4341	6.5100e-003		0.0825	0.0825		0.0825	0.0825			1,302.1394	0.0250	0.0239	1,309.8773
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	0.7384	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**9.1539**	**3.4277**	**32.1542**	**0.0116**	**0.0000**	**0.3567**	**0.3567**	**0.0000**	**0.3567**	**0.3567**			**1,733.6967**	**0.1294**	**0.0239**	**1,744.0462**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Energy	0.0907	0.7747	0.3297	4.9500e-003		0.0626	0.0626		0.0626	0.0626			989.0333	0.0190	0.0181	994.9106
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	0.7384	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**9.1252**	**3.1825**	**32.0498**	**0.0101**	**0.0000**	**0.3368**	**0.3368**	**0.0000**	**0.3368**	**0.3368**			**1,420.5905**	**0.1234**	**0.0181**	**1,429.0794**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.31**	**7.16**	**0.32**	**13.40**	**0.00**	**5.56**	**5.56**	**0.00**	**5.56**	**5.56**	**0.00**	**0.00**	**18.06**	**4.64**	**24.05**	**18.06**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Drake Demo/Grading	Demolition	11/1/2022	1/31/2023	5	66	
2	Drake Building Construction	Building Construction	2/1/2023	6/30/2025	5	629	
3	Bradley Grading	Grading	5/1/2023	7/31/2023	5	66	
4	Bradley Building	Building Construction	8/1/2023	6/30/2025	5	500	
5	Architectural Coating	Architectural Coating	5/1/2025	7/30/2025	5	65	
6	All paving	Paving	6/1/2025	6/30/2025	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 733,050; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Drake Demo/Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Drake Demo/Grading	Graders	1	8.00	187	0.41
Drake Demo/Grading	Rubber Tired Dozers	0	0.00	247	0.40
Drake Demo/Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Drake Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Drake Building Construction	Cranes	1	8.00	231	0.29
Drake Building Construction	Forklifts	2	7.00	89	0.20
Drake Building Construction	Generator Sets	0	0.00	84	0.74
Drake Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Drake Building Construction	Welders	3	8.00	46	0.45
Bradley Grading	Excavators	2	8.00	158	0.38
Bradley Grading	Graders	1	8.00	187	0.41

Bradley Grading	Rubber Tired Dozers	1	8.00	247	0.40
Bradley Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Bradley Building	Bore/Drill Rigs	1	8.00	221	0.50
Bradley Building	Cranes	1	8.00	231	0.29
Bradley Building	Forklifts	2	7.00	89	0.20
Bradley Building	Generator Sets	0	0.00	84	0.74
Bradley Building	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bradley Building	Welders	3	8.00	46	0.45
All paving	Cement and Mortar Mixers	1	8.00	9	0.56
All paving	Pavers	1	8.00	130	0.42
All paving	Paving Equipment	1	8.00	132	0.36
All paving	Rollers	1	8.00	80	0.38
All paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	2	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Drake Demo/Grading	5	13.00	0.00	22.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drake Building Construction	8	261.00	39.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bradley Grading	4	10.00	0.00	8,200.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bradley Building	8	261.00	39.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
All paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	52.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Drake Demo/Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0609	10.9911	9.3028	0.0183		0.4751	0.4751		0.4491	0.4491			1,761.1117	0.4102		1,771.3675
Total	**1.0609**	**10.9911**	**9.3028**	**0.0183**		**0.4751**	**0.4751**		**0.4491**	**0.4491**			**1,761.1117**	**0.4102**		**1,771.3675**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7100e-003	0.0840	0.0220	2.5000e-004	8.0300e-003	2.4000e-004	8.2700e-003	2.1400e-003	2.3000e-004	2.3700e-003			27.3939	1.9500e-003		27.4427
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0582	0.0383	0.4409	1.3500e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396			134.4940	3.7000e-003		134.5866
Total	**0.0609**	**0.1223**	**0.4629**	**1.6000e-003**	**0.1533**	**1.3800e-003**	**0.1547**	**0.0407**	**1.2800e-003**	**0.0420**			**161.8879**	**5.6500e-003**		**162.0293**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4203	9.0298	11.4731	0.0183		0.5319	0.5319		0.5319	0.5319			1,761.1117	0.4102		1,771.3675
Total	**0.4203**	**9.0298**	**11.4731**	**0.0183**		**0.5319**	**0.5319**		**0.5319**	**0.5319**			**1,761.1117**	**0.4102**		**1,771.3675**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7100e-003	0.0840	0.0220	2.5000e-004	8.0300e-003	2.4000e-004	8.2700e-003	2.1400e-003	2.3000e-004	2.3700e-003			27.3939	1.9500e-003		27.4427
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0582	0.0383	0.4409	1.3500e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396			134.4940	3.7000e-003		134.5866
Total	**0.0609**	**0.1223**	**0.4629**	**1.6000e-003**	**0.1533**	**1.3800e-003**	**0.1547**	**0.0407**	**1.2800e-003**	**0.0420**			**161.8879**	**5.6500e-003**		**162.0293**

3.2 Drake Demo/Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9821	9.9247	9.2548	0.0183		0.4117	0.4117		0.3890	0.3890			1,761.2797	0.4072		1,771.4586
Total	**0.9821**	**9.9247**	**9.2548**	**0.0183**		**0.4117**	**0.4117**		**0.3890**	**0.3890**			**1,761.2797**	**0.4072**		**1,771.4586**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7800e-003	0.0552	0.0198	2.4000e-004	0.0146	1.0000e-004	0.0148	3.7600e-003	1.0000e-004	3.8600e-003			26.2546	1.8100e-003		26.2998
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0549	0.0346	0.4053	1.3000e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0200e-003	0.0396			129.5737	3.3300e-003		129.6570
Total	**0.0566**	**0.0898**	**0.4251**	**1.5400e-003**	**0.1600**	**1.2100e-003**	**0.1612**	**0.0423**	**1.1200e-003**	**0.0434**			**155.8283**	**5.1400e-003**		**155.9568**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4203	9.0298	11.4731	0.0183		0.5319	0.5319		0.5319	0.5319			1,761.2797	0.4072		1,771.4586
Total	**0.4203**	**9.0298**	**11.4731**	**0.0183**		**0.5319**	**0.5319**		**0.5319**	**0.5319**			**1,761.2797**	**0.4072**		**1,771.4586**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7800e-003	0.0552	0.0198	2.4000e-004	0.0146	1.0000e-004	0.0148	3.7600e-003	1.0000e-004	3.8600e-003			26.2546	1.8100e-003		26.2998
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0549	0.0346	0.4053	1.3000e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0200e-003	0.0396			129.5737	3.3300e-003		129.6570
Total	**0.0566**	**0.0898**	**0.4251**	**1.5400e-003**	**0.1600**	**1.2100e-003**	**0.1612**	**0.0423**	**1.1200e-003**	**0.0434**			**155.8283**	**5.1400e-003**		**155.9568**

3.3 Drake Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6229	12.9479	12.5780	0.0279		0.5514	0.5514		0.5205	0.5205			2,581.8920	0.7016		2,599.4329
Total	**1.6229**	**12.9479**	**12.5780**	**0.0279**		**0.5514**	**0.5514**		**0.5205**	**0.5205**			**2,581.8920**	**0.7016**		**2,599.4329**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0868	2.7198	0.9210	9.3500e-003	0.2497	3.3200e-003	0.2530	0.0719	3.1700e-003	0.0751			1,001.2911	0.0572		1,002.7205
Worker	1.1012	0.6953	8.1371	0.0261	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,601.4407	0.0670		2,603.1144
Total	**1.1880**	**3.4151**	**9.0582**	**0.0355**	**3.1671**	**0.0255**	**3.1926**	**0.8456**	**0.0236**	**0.8692**			**3,602.7318**	**0.1241**		**3,605.8348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,581.8920	0.7016		2,599.4329
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,581.8920**	**0.7016**		**2,599.4329**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0868	2.7198	0.9210	9.3500e-003	0.2497	3.3200e-003	0.2530	0.0719	3.1700e-003	0.0751			1,001.2911	0.0572		1,002.7205
Worker	1.1012	0.6953	8.1371	0.0261	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,601.4407	0.0670		2,603.1144
Total	**1.1880**	**3.4151**	**9.0582**	**0.0355**	**3.1671**	**0.0255**	**3.1926**	**0.8456**	**0.0236**	**0.8692**			**3,602.7318**	**0.1241**		**3,605.8348**

3.3 Drake Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5226	12.1799	12.4746	0.0279		0.4900	0.4900		0.4622	0.4622			2,583.9829	0.6979		2,601.4311
Total	**1.5226**	**12.1799**	**12.4746**	**0.0279**		**0.4900**	**0.4900**		**0.4622**	**0.4622**			**2,583.9829**	**0.6979**		**2,601.4311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0847	2.7101	0.8931	9.3100e-003	0.2497	3.2600e-003	0.2530	0.0719	3.1200e-003	0.0750			997.4077	0.0563		998.8154
Worker	1.0450	0.6339	7.5753	0.0253	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,520.7479	0.0613		2,522.2814
Total	**1.1296**	**3.3440**	**8.4684**	**0.0346**	**3.1671**	**0.0251**	**3.1922**	**0.8456**	**0.0233**	**0.8688**			**3,518.1556**	**0.1177**		**3,521.0968**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,583.9829	0.6979		2,601.4311
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,583.9829**	**0.6979**		**2,601.4311**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0847	2.7101	0.8931	9.3100e-003	0.2497	3.2600e-003	0.2530	0.0719	3.1200e-003	0.0750			997.4077	0.0563		998.8154
Worker	1.0450	0.6339	7.5753	0.0253	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,520.7479	0.0613		2,522.2814
Total	**1.1296**	**3.3440**	**8.4684**	**0.0346**	**3.1671**	**0.0251**	**3.1922**	**0.8456**	**0.0233**	**0.8688**			**3,518.1556**	**0.1177**		**3,521.0968**

3.3 Drake Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4326	11.4933	12.3840	0.0279		0.4358	0.4358		0.4108	0.4108			2,584.1054	0.6936		2,601.4452
Total	**1.4326**	**11.4933**	**12.3840**	**0.0279**		**0.4358**	**0.4358**		**0.4108**	**0.4108**			**2,584.1054**	**0.6936**		**2,601.4452**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.6871	0.8703	9.2500e-003	0.2497	3.2000e-003	0.2529	0.0719	3.0600e-003	0.0750			992.0596	0.0555		993.4461
Worker	0.9954	0.5799	7.0290	0.0243	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,423.1680	0.0559		2,424.5657
Total	**1.0779**	**3.2670**	**7.8993**	**0.0336**	**3.1671**	**0.0246**	**3.1917**	**0.8456**	**0.0228**	**0.8684**			**3,415.2275**	**0.1114**		**3,418.0118**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,584.1054	0.6936		2,601.4452
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,584.1054**	**0.6936**		**2,601.4452**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.6871	0.8703	9.2500e-003	0.2497	3.2000e-003	0.2529	0.0719	3.0600e-003	0.0750			992.0596	0.0555		993.4461
Worker	0.9954	0.5799	7.0290	0.0243	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,423.1680	0.0559		2,424.5657
Total	**1.0779**	**3.2670**	**7.8993**	**0.0336**	**3.1671**	**0.0246**	**3.1917**	**0.8456**	**0.0228**	**0.8684**			**3,415.2275**	**0.1114**		**3,418.0118**

3.4 Bradley Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0703	0.0000	6.0703	3.3154	0.0000	3.3154			0.0000			0.0000
Off-Road	1.7104	17.5649	15.2193	0.0309		0.7560	0.7560		0.6955	0.6955			2,995.8260	0.9689		3,020.0488
Total	**1.7104**	**17.5649**	**15.2193**	**0.0309**	**6.0703**	**0.7560**	**6.8263**	**3.3154**	**0.6955**	**4.0109**			**2,995.8260**	**0.9689**		**3,020.0488**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6628	20.5677	7.3624	0.0899	2.1726	0.0380	2.2107	0.5956	0.0364	0.6320			9,785.8081	0.6730		9,802.6332
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0422	0.0266	0.3118	1.0000e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304			99.6721	2.5700e-003		99.7362
Total	**0.7050**	**20.5944**	**7.6742**	**0.0909**	**2.2844**	**0.0389**	**2.3233**	**0.6252**	**0.0372**	**0.6624**			**9,885.4802**	**0.6756**		**9,902.3694**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3674	0.0000	2.3674	1.2930	0.0000	1.2930			0.0000			0.0000
Off-Road	0.7584	15.1285	19.9810	0.0309		0.7222	0.7222		0.7222	0.7222			2,995.8260	0.9689		3,020.0488
Total	**0.7584**	**15.1285**	**19.9810**	**0.0309**	**2.3674**	**0.7222**	**3.0896**	**1.2930**	**0.7222**	**2.0152**			**2,995.8260**	**0.9689**		**3,020.0488**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6628	20.5677	7.3624	0.0899	2.1726	0.0380	2.2107	0.5956	0.0364	0.6320			9,785.8081	0.6730		9,802.6332
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0422	0.0266	0.3118	1.0000e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304			99.6721	2.5700e-003		99.7362
Total	**0.7050**	**20.5944**	**7.6742**	**0.0909**	**2.2844**	**0.0389**	**2.3233**	**0.6252**	**0.0372**	**0.6624**			**9,885.4802**	**0.6756**		**9,902.3694**

3.5 Bradley Building - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6229	12.9479	12.5780	0.0279		0.5514	0.5514		0.5205	0.5205			2,581.8920	0.7016		2,599.4329
Total	**1.6229**	**12.9479**	**12.5780**	**0.0279**		**0.5514**	**0.5514**		**0.5205**	**0.5205**			**2,581.8920**	**0.7016**		**2,599.4329**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0868	2.7198	0.9210	9.3500e-003	0.2497	3.3200e-003	0.2530	0.0719	3.1700e-003	0.0751			1,001.2911	0.0572		1,002.7205
Worker	1.1012	0.6953	8.1371	0.0261	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,601.4407	0.0670		2,603.1144
Total	**1.1880**	**3.4151**	**9.0582**	**0.0355**	**3.1671**	**0.0255**	**3.1926**	**0.8456**	**0.0236**	**0.8692**			**3,602.7318**	**0.1241**		**3,605.8348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,581.8920	0.7016		2,599.4329
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,581.8920**	**0.7016**		**2,599.4329**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0868	2.7198	0.9210	9.3500e-003	0.2497	3.3200e-003	0.2530	0.0719	3.1700e-003	0.0751			1,001.2911	0.0572		1,002.7205
Worker	1.1012	0.6953	8.1371	0.0261	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,601.4407	0.0670		2,603.1144
Total	**1.1880**	**3.4151**	**9.0582**	**0.0355**	**3.1671**	**0.0255**	**3.1926**	**0.8456**	**0.0236**	**0.8692**			**3,602.7318**	**0.1241**		**3,605.8348**

3.5 Bradley Building - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5226	12.1799	12.4746	0.0279		0.4900	0.4900		0.4622	0.4622			2,583.9829	0.6979		2,601.4311
Total	**1.5226**	**12.1799**	**12.4746**	**0.0279**		**0.4900**	**0.4900**		**0.4622**	**0.4622**			**2,583.9829**	**0.6979**		**2,601.4311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0847	2.7101	0.8931	9.3100e-003	0.2497	3.2600e-003	0.2530	0.0719	3.1200e-003	0.0750			997.4077	0.0563		998.8154
Worker	1.0450	0.6339	7.5753	0.0253	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,520.7479	0.0613		2,522.2814
Total	**1.1296**	**3.3440**	**8.4684**	**0.0346**	**3.1671**	**0.0251**	**3.1922**	**0.8456**	**0.0233**	**0.8688**			**3,518.1556**	**0.1177**		**3,521.0968**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,583.9829	0.6979		2,601.4311
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,583.9829**	**0.6979**		**2,601.4311**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0847	2.7101	0.8931	9.3100e-003	0.2497	3.2600e-003	0.2530	0.0719	3.1200e-003	0.0750			997.4077	0.0563		998.8154
Worker	1.0450	0.6339	7.5753	0.0253	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,520.7479	0.0613		2,522.2814
Total	**1.1296**	**3.3440**	**8.4684**	**0.0346**	**3.1671**	**0.0251**	**3.1922**	**0.8456**	**0.0233**	**0.8688**			**3,518.1556**	**0.1177**		**3,521.0968**

3.5 Bradley Building - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4326	11.4933	12.3840	0.0279		0.4358	0.4358		0.4108	0.4108			2,584.1054	0.6936		2,601.4452
Total	**1.4326**	**11.4933**	**12.3840**	**0.0279**		**0.4358**	**0.4358**		**0.4108**	**0.4108**			**2,584.1054**	**0.6936**		**2,601.4452**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.6871	0.8703	9.2500e-003	0.2497	3.2000e-003	0.2529	0.0719	3.0600e-003	0.0750			992.0596	0.0555		993.4461
Worker	0.9954	0.5799	7.0290	0.0243	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,423.1680	0.0559		2,424.5657
Total	**1.0779**	**3.2670**	**7.8993**	**0.0336**	**3.1671**	**0.0246**	**3.1917**	**0.8456**	**0.0228**	**0.8684**			**3,415.2275**	**0.1114**		**3,418.0118**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,584.1054	0.6936		2,601.4452
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,584.1054**	**0.6936**		**2,601.4452**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.6871	0.8703	9.2500e-003	0.2497	3.2000e-003	0.2529	0.0719	3.0600e-003	0.0750			992.0596	0.0555		993.4461
Worker	0.9954	0.5799	7.0290	0.0243	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,423.1680	0.0559		2,424.5657
Total	**1.0779**	**3.2670**	**7.8993**	**0.0336**	**3.1671**	**0.0246**	**3.1917**	**0.8456**	**0.0228**	**0.8684**			**3,415.2275**	**0.1114**		**3,418.0118**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.0680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3417	2.2910	3.6183	5.9400e-003		0.1030	0.1030		0.1030	0.1030			562.8961	0.0307		563.6637
Total	**13.4098**	**2.2910**	**3.6183**	**5.9400e-003**		**0.1030**	**0.1030**		**0.1030**	**0.1030**			**562.8961**	**0.0307**		**563.6637**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1983	0.1155	1.4004	4.8400e-003	0.5812	4.2700e-003	0.5855	0.1542	3.9300e-003	0.1581			482.7768	0.0111		483.0552
Total	**0.1983**	**0.1155**	**1.4004**	**4.8400e-003**	**0.5812**	**4.2700e-003**	**0.5855**	**0.1542**	**3.9300e-003**	**0.1581**			**482.7768**	**0.0111**		**483.0552**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.0680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1189	2.7140	3.6648	5.9400e-003		0.1902	0.1902		0.1902	0.1902			562.8961	0.0307		563.6637
Total	**13.1869**	**2.7140**	**3.6648**	**5.9400e-003**		**0.1902**	**0.1902**		**0.1902**	**0.1902**			**562.8961**	**0.0307**		**563.6637**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1983	0.1155	1.4004	4.8400e-003	0.5812	4.2700e-003	0.5855	0.1542	3.9300e-003	0.1581			482.7768	0.0111		483.0552
Total	**0.1983**	**0.1155**	**1.4004**	**4.8400e-003**	**0.5812**	**4.2700e-003**	**0.5855**	**0.1542**	**3.9300e-003**	**0.1581**			**482.7768**	**0.0111**		**483.0552**

3.7 All paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6485	5.9941	9.8270	0.0152		0.2777	0.2777		0.2566	0.2566			1,455.9447	0.4598		1,467.4395
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6485**	**5.9941**	**9.8270**	**0.0152**		**0.2777**	**0.2777**		**0.2566**	**0.2566**			**1,455.9447**	**0.4598**		**1,467.4395**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0572	0.0333	0.4040	1.4000e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456			139.2625	3.2100e-003		139.3429
Total	**0.0572**	**0.0333**	**0.4040**	**1.4000e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1300e-003**	**0.0456**			**139.2625**	**3.2100e-003**		**139.3429**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3564	7.3820	10.9899	0.0152		0.4262	0.4262		0.4262	0.4262			1,455.9447	0.4598		1,467.4395
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3564**	**7.3820**	**10.9899**	**0.0152**		**0.4262**	**0.4262**		**0.4262**	**0.4262**			**1,455.9447**	**0.4598**		**1,467.4395**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0572	0.0333	0.4040	1.4000e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456			139.2625	3.2100e-003		139.3429
Total	**0.0572**	**0.0333**	**0.4040**	**1.4000e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1300e-003**	**0.0456**			**139.2625**	**3.2100e-003**		**139.3429**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments Mid Rise	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments Mid Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0907	0.7747	0.3297	4.9500e-003		0.0626	0.0626		0.0626	0.0626			989.0333	0.0190	0.0181	994.9106
NaturalGas Unmitigated	0.1194	1.0200	0.4341	6.5100e-003		0.0825	0.0825		0.0825	0.0825			1,302.1394	0.0250	0.0239	1,309.8773

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	7338.02	0.0791	0.6763	0.2878	4.3200e-003		0.0547	0.0547		0.0547	0.0547			863.2968	0.0166	0.0158	868.4270
Apartments Mid Rise	3730.16	0.0402	0.3438	0.1463	2.1900e-003		0.0278	0.0278		0.0278	0.0278			438.8426	8.4100e-003	8.0500e-003	441.4504
Total		**0.1194**	**1.0200**	**0.4341**	**6.5100e-003**		**0.0825**	**0.0825**		**0.0825**	**0.0825**			**1,302.1394**	**0.0250**	**0.0239**	**1,309.8773**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	5.57356	0.0601	0.5136	0.2186	3.2800e-003		0.0415	0.0415		0.0415	0.0415			655.7127	0.0126	0.0120	659.6092
Apartments Mid Rise	2.83323	0.0306	0.2611	0.1111	1.6700e-003		0.0211	0.0211		0.0211	0.0211			333.3206	6.3900e-003	6.1100e-003	335.3014
Total		**0.0907**	**0.7747**	**0.3297**	**4.9500e-003**		**0.0626**	**0.0626**		**0.0626**	**0.0626**			**989.0333**	**0.0190**	**0.0181**	**994.9106**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Unmitigated	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1676					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.8959	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515		55.0634
Total	**8.2962**	**0.3437**	**29.8372**	**1.5800e-003**		**0.1656**	**0.1656**		**0.1656**	**0.1656**			**53.7759**	**0.0515**	**0.0000**	**55.0634**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1676					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.8959	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515		55.0634
Total	**8.2962**	**0.3437**	**29.8372**	**1.5800e-003**		**0.1656**	**0.1656**		**0.1656**	**0.1656**			**53.7759**	**0.0515**	**0.0000**	**55.0634**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	6	500	0.73	Diesel
Emergency Generator	1	0.5	6	400	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.7384	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**0.7384**	**2.0640**	**1.8830**	**3.5500e-003**		**0.1086**	**0.1086**		**0.1086**	**0.1086**			**377.7814**	**0.0530**		**379.1055**

11.0 Vegetation

UCLA LRDP Amendment & Student Housing - Bradley Drake

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	240.00	Dwelling Unit	1.30	240,000.00	800
Apartments Mid Rise	122.00	Dwelling Unit	1.10	122,000.00	600

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1028.4	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Start 11/1/2022
CO2 intensity with 33% renew in 2025

Land Use - Bradley 122 du, 1.1 ac. 600 pop; Drake 240 du, 1.3 ac, 800 pop

Construction Phase - Const schedule per PD. One month assumed for all paving

Off-road Equipment - 3 sites grading

Off-road Equipment - 1 roller

Off-road Equipment - 2 projects paint

Off-road Equipment - No generator needed; add drill rig

Off-road Equipment - Add 2 excavators

Off-road Equipment - No generator needed; add drill rig

Off-road Equipment - Drake-sidewalk demo; minimal site prep/grading

Trips and VMT - Haul Truck trips per UCLA; Worker-vendor per appx A

Demolition -

Grading -

Architectural Coating - No exterior coating.
Reactivity adjusted VOC

Vehicle Trips - No added vehicle trips

Woodstoves - No woodstoves or fireplaces

Area Coating - No exterior coating
Reactivity adjusted VOC

Energy Use - x

Water And Wastewater - Water data from WSA
No added landscape water

Construction Off-road Equipment Mitigation - All equip Tier 3

Energy Mitigation - 20% better than 2016 code = 42.4% better than 2013

Waste Mitigation - 70% solid waste diversion per current practice

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Emerg generators 0.5 hrs once per month

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	244,350.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblAreaCoating	Area_EF_Residential_Interior	50	25
tblAreaCoating	Area_Residential_Exterior	244350	0
tblConstructionPhase	NumDays	10.00	65.00
tblConstructionPhase	NumDays	220.00	629.00
tblConstructionPhase	NumDays	220.00	500.00
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	6.00	66.00
tblConstructionPhase	NumDays	10.00	21.00
tblGrading	AcresOfGrading	33.00	3.00

tblLandUse	LotAcreage	3.87	1.30
tblLandUse	LotAcreage	3.21	1.10
tblLandUse	Population	686.00	800.00
tblLandUse	Population	349.00	600.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1028.4
tblProjectCharacteristics	OperationalYear	2018	2025
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	400.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	500.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	22.00
tblTripsAndVMT	HaulingTripNumber	0.00	8,200.00
tblVehicleTrips	ST_TR	4.98	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	SU_TR	3.65	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	WD_TR	4.20	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblWater	IndoorWaterUseRate	15,636,966.15	18,204,010.00
tblWater	IndoorWaterUseRate	7,948,791.13	12,781,935.00
tblWater	OutdoorWaterUseRate	9,858,087.35	0.00
tblWater	OutdoorWaterUseRate	5,011,194.41	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.1158	11.1088	9.8066	0.0200	0.1533	0.4765	0.6298	0.0407	0.4504	0.4911			1,931.8255	0.4161	0.0000	1,942.2269
2023	5.3791	54.3217	44.9777	0.1887	11.5218	1.3706	12.8923	4.7862	1.2756	6.0619			19,434.2788	2.4530	0.0000	19,495.6029
2024	5.0682	30.9496	43.2424	0.1287	6.3341	1.0299	7.3640	1.6912	0.9706	2.6617			12,572.1304	1.6333	0.0000	12,612.9640
2025	19.0754	37.8525	57.2633	0.1543	7.0830	1.3068	8.3898	1.8898	1.2315	3.1213			15,033.0365	2.1175	0.0000	15,085.9739
Maximum	**19.0754**	**54.3217**	**57.2633**	**0.1887**	**11.5218**	**1.3706**	**12.8923**	**4.7862**	**1.2756**	**6.0619**			**19,434.2788**	**2.4530**	**0.0000**	**19,495.6029**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.4752	9.1475	11.9769	0.0200	0.1533	0.5333	0.6866	0.0407	0.5332	0.5739			1,931.8255	0.4161	0.0000	1,942.2269
2023	3.7657	54.0771	53.5803	0.1887	7.8189	1.6082	9.3831	2.7638	1.6045	4.3245			19,434.2788	2.4530	0.0000	19,495.6029
2024	3.6554	36.8692	51.1308	0.1287	6.3341	1.6075	7.9417	1.6912	1.6038	3.2950			12,572.1304	1.6333	0.0000	12,612.9640
2025	17.3276	46.9561	66.5425	0.1543	7.0830	2.2284	9.3115	1.8898	2.2243	4.1141			15,033.0365	2.1175	0.0000	15,085.9739
Maximum	**17.3276**	**54.0771**	**66.5425**	**0.1887**	**7.8189**	**2.2284**	**9.3831**	**2.7638**	**2.2243**	**4.3245**			**19,434.2788**	**2.4530**	**0.0000**	**19,495.6029**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**17.67**	**-9.55**	**-17.99**	**0.00**	**14.76**	**-42.87**	**6.67**	**24.05**	**-51.87**	**0.23**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Energy	0.1194	1.0200	0.4341	6.5100e-003		0.0825	0.0825		0.0825	0.0825			1,302.1394	0.0250	0.0239	1,309.8773
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	0.7384	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**9.1539**	**3.4277**	**32.1542**	**0.0116**	**0.0000**	**0.3567**	**0.3567**	**0.0000**	**0.3567**	**0.3567**			**1,733.6967**	**0.1294**	**0.0239**	**1,744.0462**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Energy	0.0907	0.7747	0.3297	4.9500e-003		0.0626	0.0626		0.0626	0.0626			989.0333	0.0190	0.0181	994.9106
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	0.7384	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**9.1252**	**3.1825**	**32.0498**	**0.0101**	**0.0000**	**0.3368**	**0.3368**	**0.0000**	**0.3368**	**0.3368**			**1,420.5905**	**0.1234**	**0.0181**	**1,429.0794**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.31**	**7.16**	**0.32**	**13.40**	**0.00**	**5.56**	**5.56**	**0.00**	**5.56**	**5.56**	**0.00**	**0.00**	**18.06**	**4.64**	**24.05**	**18.06**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Drake Demo/Grading	Demolition	11/1/2022	1/31/2023	5	66	
2	Drake Building Construction	Building Construction	2/1/2023	6/30/2025	5	629	
3	Bradley Grading	Grading	5/1/2023	7/31/2023	5	66	
4	Bradley Building	Building Construction	8/1/2023	6/30/2025	5	500	
5	Architectural Coating	Architectural Coating	5/1/2025	7/30/2025	5	65	
6	All paving	Paving	6/1/2025	6/30/2025	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 733,050; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Drake Demo/Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Drake Demo/Grading	Graders	1	8.00	187	0.41
Drake Demo/Grading	Rubber Tired Dozers	0	0.00	247	0.40
Drake Demo/Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Drake Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Drake Building Construction	Cranes	1	8.00	231	0.29
Drake Building Construction	Forklifts	2	7.00	89	0.20
Drake Building Construction	Generator Sets	0	0.00	84	0.74
Drake Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Drake Building Construction	Welders	3	8.00	46	0.45
Bradley Grading	Excavators	2	8.00	158	0.38
Bradley Grading	Graders	1	8.00	187	0.41

Bradley Grading	Rubber Tired Dozers	1	8.00	247	0.40
Bradley Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Bradley Building	Bore/Drill Rigs	1	8.00	221	0.50
Bradley Building	Cranes	1	8.00	231	0.29
Bradley Building	Forklifts	2	7.00	89	0.20
Bradley Building	Generator Sets	0	0.00	84	0.74
Bradley Building	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bradley Building	Welders	3	8.00	46	0.45
All paving	Cement and Mortar Mixers	1	8.00	9	0.56
All paving	Pavers	1	8.00	130	0.42
All paving	Paving Equipment	1	8.00	132	0.36
All paving	Rollers	1	8.00	80	0.38
All paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	2	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Drake Demo/Grading	5	13.00	0.00	22.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drake Building Construction	8	261.00	39.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bradley Grading	4	10.00	0.00	8,200.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bradley Building	8	261.00	39.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
All paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	52.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Drake Demo/Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0609	10.9911	9.3028	0.0183		0.4751	0.4751		0.4491	0.4491			1,761.1117	0.4102		1,771.3675
Total	**1.0609**	**10.9911**	**9.3028**	**0.0183**		**0.4751**	**0.4751**		**0.4491**	**0.4491**			**1,761.1117**	**0.4102**		**1,771.3675**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6400e-003	0.0831	0.0208	2.6000e-004	8.0300e-003	2.4000e-004	8.2700e-003	2.1400e-003	2.3000e-004	2.3700e-003			27.8812	1.8900e-003		27.9283
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0522	0.0346	0.4831	1.4300e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396			142.8326	3.9400e-003		142.9312
Total	**0.0548**	**0.1177**	**0.5038**	**1.6900e-003**	**0.1533**	**1.3800e-003**	**0.1547**	**0.0407**	**1.2800e-003**	**0.0420**			**170.7138**	**5.8300e-003**		**170.8595**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4203	9.0298	11.4731	0.0183		0.5319	0.5319		0.5319	0.5319			1,761.1117	0.4102		1,771.3675
Total	**0.4203**	**9.0298**	**11.4731**	**0.0183**		**0.5319**	**0.5319**		**0.5319**	**0.5319**			**1,761.1117**	**0.4102**		**1,771.3675**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6400e-003	0.0831	0.0208	2.6000e-004	8.0300e-003	2.4000e-004	8.2700e-003	2.1400e-003	2.3000e-004	2.3700e-003			27.8812	1.8900e-003		27.9283
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0522	0.0346	0.4831	1.4300e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396			142.8326	3.9400e-003		142.9312
Total	**0.0548**	**0.1177**	**0.5038**	**1.6900e-003**	**0.1533**	**1.3800e-003**	**0.1547**	**0.0407**	**1.2800e-003**	**0.0420**			**170.7138**	**5.8300e-003**		**170.8595**

3.2 Drake Demo/Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9821	9.9247	9.2548	0.0183		0.4117	0.4117		0.3890	0.3890			1,761.2797	0.4072		1,771.4586
Total	**0.9821**	**9.9247**	**9.2548**	**0.0183**		**0.4117**	**0.4117**		**0.3890**	**0.3890**			**1,761.2797**	**0.4072**		**1,771.4586**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7300e-003	0.0548	0.0189	2.5000e-004	0.0146	1.0000e-004	0.0147	3.7600e-003	9.0000e-005	3.8600e-003			26.7188	1.7600e-003		26.7627
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0490	0.0313	0.4449	1.3800e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0200e-003	0.0396			137.6027	3.5500e-003		137.6915
Total	**0.0508**	**0.0861**	**0.4638**	**1.6300e-003**	**0.1600**	**1.2100e-003**	**0.1612**	**0.0423**	**1.1100e-003**	**0.0434**			**164.3215**	**5.3100e-003**		**164.4542**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4203	9.0298	11.4731	0.0183		0.5319	0.5319		0.5319	0.5319			1,761.2797	0.4072		1,771.4586
Total	**0.4203**	**9.0298**	**11.4731**	**0.0183**		**0.5319**	**0.5319**		**0.5319**	**0.5319**			**1,761.2797**	**0.4072**		**1,771.4586**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7300e-003	0.0548	0.0189	2.5000e-004	0.0146	1.0000e-004	0.0147	3.7600e-003	9.0000e-005	3.8600e-003			26.7188	1.7600e-003		26.7627
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0490	0.0313	0.4449	1.3800e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0200e-003	0.0396			137.6027	3.5500e-003		137.6915
Total	**0.0508**	**0.0861**	**0.4638**	**1.6300e-003**	**0.1600**	**1.2100e-003**	**0.1612**	**0.0423**	**1.1100e-003**	**0.0434**			**164.3215**	**5.3100e-003**		**164.4542**

3.3 Drake Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6229	12.9479	12.5780	0.0279		0.5514	0.5514		0.5205	0.5205			2,581.8920	0.7016		2,599.4329
Total	**1.6229**	**12.9479**	**12.5780**	**0.0279**		**0.5514**	**0.5514**		**0.5205**	**0.5205**			**2,581.8920**	**0.7016**		**2,599.4329**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.7322	0.8459	9.6100e-003	0.2497	3.1600e-003	0.2529	0.0719	3.0200e-003	0.0749			1,029.2390	0.0540		1,030.5900
Worker	0.9841	0.6285	8.9318	0.0277	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,762.6380	0.0714		2,764.4221
Total	**1.0667**	**3.3607**	**9.7776**	**0.0373**	**3.1671**	**0.0254**	**3.1924**	**0.8456**	**0.0235**	**0.8690**			**3,791.8770**	**0.1254**		**3,795.0121**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,581.8920	0.7016		2,599.4329
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,581.8920**	**0.7016**		**2,599.4329**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.7322	0.8459	9.6100e-003	0.2497	3.1600e-003	0.2529	0.0719	3.0200e-003	0.0749			1,029.2390	0.0540		1,030.5900
Worker	0.9841	0.6285	8.9318	0.0277	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,762.6380	0.0714		2,764.4221
Total	**1.0667**	**3.3607**	**9.7776**	**0.0373**	**3.1671**	**0.0254**	**3.1924**	**0.8456**	**0.0235**	**0.8690**			**3,791.8770**	**0.1254**		**3,795.0121**

3.3 Drake Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5226	12.1799	12.4746	0.0279		0.4900	0.4900		0.4622	0.4622			2,583.9829	0.6979		2,601.4311
Total	**1.5226**	**12.1799**	**12.4746**	**0.0279**		**0.4900**	**0.4900**		**0.4622**	**0.4622**			**2,583.9829**	**0.6979**		**2,601.4311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0806	2.7218	0.8201	9.5600e-003	0.2497	3.1200e-003	0.2528	0.0719	2.9800e-003	0.0749			1,025.0621	0.0533		1,026.3939
Worker	0.9310	0.5731	8.3265	0.0269	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,677.0203	0.0655		2,678.6570
Total	**1.0115**	**3.2949**	**9.1465**	**0.0364**	**3.1671**	**0.0250**	**3.1921**	**0.8456**	**0.0231**	**0.8687**			**3,702.0824**	**0.1187**		**3,705.0509**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,583.9829	0.6979		2,601.4311
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,583.9829**	**0.6979**		**2,601.4311**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0806	2.7218	0.8201	9.5600e-003	0.2497	3.1200e-003	0.2528	0.0719	2.9800e-003	0.0749			1,025.0621	0.0533		1,026.3939
Worker	0.9310	0.5731	8.3265	0.0269	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,677.0203	0.0655		2,678.6570
Total	**1.0115**	**3.2949**	**9.1465**	**0.0364**	**3.1671**	**0.0250**	**3.1921**	**0.8456**	**0.0231**	**0.8687**			**3,702.0824**	**0.1187**		**3,705.0509**

3.3 Drake Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4326	11.4933	12.3840	0.0279		0.4358	0.4358		0.4108	0.4108			2,584.1054	0.6936		2,601.4452
Total	**1.4326**	**11.4933**	**12.3840**	**0.0279**		**0.4358**	**0.4358**		**0.4108**	**0.4108**			**2,584.1054**	**0.6936**		**2,601.4452**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0785	2.6987	0.7990	9.5000e-003	0.2497	3.0700e-003	0.2528	0.0719	2.9300e-003	0.0748			1,019.4139	0.0525		1,020.7270
Worker	0.8840	0.5244	7.7334	0.0258	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,573.2903	0.0597		2,574.7833
Total	**0.9625**	**3.2231**	**8.5324**	**0.0353**	**3.1671**	**0.0245**	**3.1916**	**0.8456**	**0.0226**	**0.8682**			**3,592.7042**	**0.1122**		**3,595.5103**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,584.1054	0.6936		2,601.4452
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,584.1054**	**0.6936**		**2,601.4452**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0785	2.6987	0.7990	9.5000e-003	0.2497	3.0700e-003	0.2528	0.0719	2.9300e-003	0.0748			1,019.4139	0.0525		1,020.7270
Worker	0.8840	0.5244	7.7334	0.0258	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,573.2903	0.0597		2,574.7833
Total	**0.9625**	**3.2231**	**8.5324**	**0.0353**	**3.1671**	**0.0245**	**3.1916**	**0.8456**	**0.0226**	**0.8682**			**3,592.7042**	**0.1122**		**3,595.5103**

3.4 Bradley Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0703	0.0000	6.0703	3.3154	0.0000	3.3154			0.0000			0.0000
Off-Road	1.7104	17.5649	15.2193	0.0309		0.7560	0.7560		0.6955	0.6955			2,995.8260	0.9689		3,020.0488
Total	**1.7104**	**17.5649**	**15.2193**	**0.0309**	**6.0703**	**0.7560**	**6.8263**	**3.3154**	**0.6955**	**4.0109**			**2,995.8260**	**0.9689**		**3,020.0488**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6466	20.4242	7.0606	0.0915	2.1726	0.0370	2.2097	0.5956	0.0354	0.6310			9,958.8356	0.6543		9,975.1926
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0377	0.0241	0.3422	1.0600e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304			105.8482	2.7300e-003		105.9166
Total	**0.6843**	**20.4483**	**7.4028**	**0.0925**	**2.2844**	**0.0379**	**2.3223**	**0.6252**	**0.0362**	**0.6614**			**10,064.6838**	**0.6570**		**10,081.1092**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3674	0.0000	2.3674	1.2930	0.0000	1.2930			0.0000			0.0000
Off-Road	0.7584	15.1285	19.9810	0.0309		0.7222	0.7222		0.7222	0.7222			2,995.8260	0.9689		3,020.0488
Total	**0.7584**	**15.1285**	**19.9810**	**0.0309**	**2.3674**	**0.7222**	**3.0896**	**1.2930**	**0.7222**	**2.0152**			**2,995.8260**	**0.9689**		**3,020.0488**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6466	20.4242	7.0606	0.0915	2.1726	0.0370	2.2097	0.5956	0.0354	0.6310			9,958.8356	0.6543		9,975.1926
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0377	0.0241	0.3422	1.0600e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304			105.8482	2.7300e-003		105.9166
Total	**0.6843**	**20.4483**	**7.4028**	**0.0925**	**2.2844**	**0.0379**	**2.3223**	**0.6252**	**0.0362**	**0.6614**			**10,064.6838**	**0.6570**		**10,081.1092**

3.5 Bradley Building - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6229	12.9479	12.5780	0.0279		0.5514	0.5514		0.5205	0.5205			2,581.8920	0.7016		2,599.4329
Total	**1.6229**	**12.9479**	**12.5780**	**0.0279**		**0.5514**	**0.5514**		**0.5205**	**0.5205**			**2,581.8920**	**0.7016**		**2,599.4329**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.7322	0.8459	9.6100e-003	0.2497	3.1600e-003	0.2529	0.0719	3.0200e-003	0.0749			1,029.2390	0.0540		1,030.5900
Worker	0.9841	0.6285	8.9318	0.0277	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,762.6380	0.0714		2,764.4221
Total	**1.0667**	**3.3607**	**9.7776**	**0.0373**	**3.1671**	**0.0254**	**3.1924**	**0.8456**	**0.0235**	**0.8690**			**3,791.8770**	**0.1254**		**3,795.0121**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,581.8920	0.7016		2,599.4329
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,581.8920**	**0.7016**		**2,599.4329**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.7322	0.8459	9.6100e-003	0.2497	3.1600e-003	0.2529	0.0719	3.0200e-003	0.0749			1,029.2390	0.0540		1,030.5900
Worker	0.9841	0.6285	8.9318	0.0277	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,762.6380	0.0714		2,764.4221
Total	**1.0667**	**3.3607**	**9.7776**	**0.0373**	**3.1671**	**0.0254**	**3.1924**	**0.8456**	**0.0235**	**0.8690**			**3,791.8770**	**0.1254**		**3,795.0121**

3.5 Bradley Building - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5226	12.1799	12.4746	0.0279		0.4900	0.4900		0.4622	0.4622			2,583.9829	0.6979		2,601.4311
Total	**1.5226**	**12.1799**	**12.4746**	**0.0279**		**0.4900**	**0.4900**		**0.4622**	**0.4622**			**2,583.9829**	**0.6979**		**2,601.4311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0806	2.7218	0.8201	9.5600e-003	0.2497	3.1200e-003	0.2528	0.0719	2.9800e-003	0.0749			1,025.0621	0.0533		1,026.3939
Worker	0.9310	0.5731	8.3265	0.0269	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,677.0203	0.0655		2,678.6570
Total	**1.0115**	**3.2949**	**9.1465**	**0.0364**	**3.1671**	**0.0250**	**3.1921**	**0.8456**	**0.0231**	**0.8687**			**3,702.0824**	**0.1187**		**3,705.0509**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,583.9829	0.6979		2,601.4311
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,583.9829**	**0.6979**		**2,601.4311**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0806	2.7218	0.8201	9.5600e-003	0.2497	3.1200e-003	0.2528	0.0719	2.9800e-003	0.0749			1,025.0621	0.0533		1,026.3939
Worker	0.9310	0.5731	8.3265	0.0269	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,677.0203	0.0655		2,678.6570
Total	**1.0115**	**3.2949**	**9.1465**	**0.0364**	**3.1671**	**0.0250**	**3.1921**	**0.8456**	**0.0231**	**0.8687**			**3,702.0824**	**0.1187**		**3,705.0509**

3.5 Bradley Building - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4326	11.4933	12.3840	0.0279		0.4358	0.4358		0.4108	0.4108			2,584.1054	0.6936		2,601.4452
Total	**1.4326**	**11.4933**	**12.3840**	**0.0279**		**0.4358**	**0.4358**		**0.4108**	**0.4108**			**2,584.1054**	**0.6936**		**2,601.4452**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0785	2.6987	0.7990	9.5000e-003	0.2497	3.0700e-003	0.2528	0.0719	2.9300e-003	0.0748			1,019.4139	0.0525		1,020.7270
Worker	0.8840	0.5244	7.7334	0.0258	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,573.2903	0.0597		2,574.7833
Total	**0.9625**	**3.2231**	**8.5324**	**0.0353**	**3.1671**	**0.0245**	**3.1916**	**0.8456**	**0.0226**	**0.8682**			**3,592.7042**	**0.1122**		**3,595.5103**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8162	15.1397	16.4189	0.0279		0.7788	0.7788		0.7788	0.7788			2,584.1054	0.6936		2,601.4452
Total	**0.8162**	**15.1397**	**16.4189**	**0.0279**		**0.7788**	**0.7788**		**0.7788**	**0.7788**			**2,584.1054**	**0.6936**		**2,601.4452**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0785	2.6987	0.7990	9.5000e-003	0.2497	3.0700e-003	0.2528	0.0719	2.9300e-003	0.0748			1,019.4139	0.0525		1,020.7270
Worker	0.8840	0.5244	7.7334	0.0258	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,573.2903	0.0597		2,574.7833
Total	**0.9625**	**3.2231**	**8.5324**	**0.0353**	**3.1671**	**0.0245**	**3.1916**	**0.8456**	**0.0226**	**0.8682**			**3,592.7042**	**0.1122**		**3,595.5103**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.0680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3417	2.2910	3.6183	5.9400e-003		0.1030	0.1030		0.1030	0.1030			562.8961	0.0307		563.6637
Total	**13.4098**	**2.2910**	**3.6183**	**5.9400e-003**		**0.1030**	**0.1030**		**0.1030**	**0.1030**			**562.8961**	**0.0307**		**563.6637**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1761	0.1045	1.5408	5.1400e-003	0.5812	4.2700e-003	0.5855	0.1542	3.9300e-003	0.1581			512.6862	0.0119		512.9837
Total	**0.1761**	**0.1045**	**1.5408**	**5.1400e-003**	**0.5812**	**4.2700e-003**	**0.5855**	**0.1542**	**3.9300e-003**	**0.1581**			**512.6862**	**0.0119**		**512.9837**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.0680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1189	2.7140	3.6648	5.9400e-003		0.1902	0.1902		0.1902	0.1902			562.8961	0.0307		563.6637
Total	**13.1869**	**2.7140**	**3.6648**	**5.9400e-003**		**0.1902**	**0.1902**		**0.1902**	**0.1902**			**562.8961**	**0.0307**		**563.6637**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1761	0.1045	1.5408	5.1400e-003	0.5812	4.2700e-003	0.5855	0.1542	3.9300e-003	0.1581			512.6862	0.0119		512.9837
Total	**0.1761**	**0.1045**	**1.5408**	**5.1400e-003**	**0.5812**	**4.2700e-003**	**0.5855**	**0.1542**	**3.9300e-003**	**0.1581**			**512.6862**	**0.0119**		**512.9837**

3.7 All paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6485	5.9941	9.8270	0.0152		0.2777	0.2777		0.2566	0.2566			1,455.9447	0.4598		1,467.4395
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6485**	**5.9941**	**9.8270**	**0.0152**		**0.2777**	**0.2777**		**0.2566**	**0.2566**			**1,455.9447**	**0.4598**		**1,467.4395**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0508	0.0301	0.4445	1.4800e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456			147.8903	3.4300e-003		147.9761
Total	**0.0508**	**0.0301**	**0.4445**	**1.4800e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1300e-003**	**0.0456**			**147.8903**	**3.4300e-003**		**147.9761**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3564	7.3820	10.9899	0.0152		0.4262	0.4262		0.4262	0.4262			1,455.9447	0.4598		1,467.4395
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3564**	**7.3820**	**10.9899**	**0.0152**		**0.4262**	**0.4262**		**0.4262**	**0.4262**			**1,455.9447**	**0.4598**		**1,467.4395**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0508	0.0301	0.4445	1.4800e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456			147.8903	3.4300e-003		147.9761
Total	**0.0508**	**0.0301**	**0.4445**	**1.4800e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1300e-003**	**0.0456**			**147.8903**	**3.4300e-003**		**147.9761**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments Mid Rise	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments Mid Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0907	0.7747	0.3297	4.9500e-003		0.0626	0.0626		0.0626	0.0626			989.0333	0.0190	0.0181	994.9106
NaturalGas Unmitigated	0.1194	1.0200	0.4341	6.5100e-003		0.0825	0.0825		0.0825	0.0825			1,302.1394	0.0250	0.0239	1,309.8773

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	7338.02	0.0791	0.6763	0.2878	4.3200e-003		0.0547	0.0547		0.0547	0.0547			863.2968	0.0166	0.0158	868.4270
Apartments Mid Rise	3730.16	0.0402	0.3438	0.1463	2.1900e-003		0.0278	0.0278		0.0278	0.0278			438.8426	8.4100e-003	8.0500e-003	441.4504
Total		**0.1194**	**1.0200**	**0.4341**	**6.5100e-003**		**0.0825**	**0.0825**		**0.0825**	**0.0825**			**1,302.1394**	**0.0250**	**0.0239**	**1,309.8773**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	5.57356	0.0601	0.5136	0.2186	3.2800e-003		0.0415	0.0415		0.0415	0.0415			655.7127	0.0126	0.0120	659.6092
Apartments Mid Rise	2.83323	0.0306	0.2611	0.1111	1.6700e-003		0.0211	0.0211		0.0211	0.0211			333.3206	6.3900e-003	6.1100e-003	335.3014
Total		**0.0907**	**0.7747**	**0.3297**	**4.9500e-003**		**0.0626**	**0.0626**		**0.0626**	**0.0626**			**989.0333**	**0.0190**	**0.0181**	**994.9106**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Unmitigated	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1676					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.8959	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515		55.0634
Total	**8.2962**	**0.3437**	**29.8372**	**1.5800e-003**		**0.1656**	**0.1656**		**0.1656**	**0.1656**			**53.7759**	**0.0515**	**0.0000**	**55.0634**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1676					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.8959	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515		55.0634
Total	**8.2962**	**0.3437**	**29.8372**	**1.5800e-003**		**0.1656**	**0.1656**		**0.1656**	**0.1656**			**53.7759**	**0.0515**	**0.0000**	**55.0634**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	6	500	0.73	Diesel
Emergency Generator	1	0.5	6	400	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.7384	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**0.7384**	**2.0640**	**1.8830**	**3.5500e-003**		**0.1086**	**0.1086**		**0.1086**	**0.1086**			**377.7814**	**0.0530**		**379.1055**

11.0 Vegetation

UCLA LRDP Amendment & Student Housing - Bradley Drake

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	240.00	Dwelling Unit	1.30	240,000.00	800
Apartments Mid Rise	122.00	Dwelling Unit	1.10	122,000.00	600

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1028.4	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Start 11/1/2022
CO2 intensity with 33% renew in 2025

Land Use - Bradley 122 du, 1.1 ac. 600 pop; Drake 240 du, 1.3 ac, 800 pop

Construction Phase - Const schedule per PD. One month assumed for all paving

Off-road Equipment - 3 sites grading

Off-road Equipment - 1 roller

Off-road Equipment - 2 projects paint

Off-road Equipment - No generator needed; add drill rig

Off-road Equipment - Add 2 excavators

Off-road Equipment - No generator needed; add drill rig

Off-road Equipment - Drake-sidewalk demo; minimal site prep/grading

Trips and VMT - Haul Truck trips per UCLA; Worker-vendor per appx A

Demolition -

Grading -

Architectural Coating - No exterior coating.
Reactivity adjusted VOC

Vehicle Trips - No added vehicle trips

Woodstoves - No woodstoves or fireplaces

Area Coating - No exterior coating
Reactivity adjusted VOC

Energy Use - x

Water And Wastewater - Water data from WSA
No added landscape water

Construction Off-road Equipment Mitigation - Excavators, graders, dozer, loader for Brad Grading Tier 4
All other Tier 3

Energy Mitigation - 20% better than 2016 code = 42.4% better than 2013

Waste Mitigation -

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Emerg generators 0.5 hrs once per month

Stationary Sources - Process Boilers -

Solid Waste - By 2025 all solid waste will be diverted from landfill

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	244,350.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblAreaCoating	Area_EF_Residential_Interior	50	25
tblAreaCoating	Area_Residential_Exterior	244350	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblFireplaces	NumberGas	204.00	0.00
tblFireplaces	NumberGas	103.70	0.00
tblFireplaces	NumberNoFireplace	24.00	240.00
tblFireplaces	NumberNoFireplace	12.20	122.00
tblFireplaces	NumberWood	12.00	0.00
tblFireplaces	NumberWood	6.10	0.00
tblGrading	AcresOfGrading	33.00	3.00

tblLandUse	LotAcreage	3.87	1.30
tblLandUse	LotAcreage	3.21	1.10
tblLandUse	Population	686.00	800.00
tblLandUse	Population	349.00	600.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1028.4
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	110.40	0.00
tblSolidWaste	SolidWasteGenerationRate	56.12	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	22.00
tblTripsAndVMT	HaulingTripNumber	0.00	8,200.00
tblTripsAndVMT	WorkerTripNumber	10.00	13.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	ST_TR	4.98	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	SU_TR	3.65	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	WD_TR	4.20	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblWater	IndoorWaterUseRate	15,636,966.15	18,204,010.00

tblWater	IndoorWaterUseRate	7,948,791.13	12,781,935.00
tblWater	OutdoorWaterUseRate	9,858,087.35	0.00
tblWater	OutdoorWaterUseRate	5,011,194.41	0.00
tblWoodstoves	NumberCatalytic	12.00	0.00
tblWoodstoves	NumberCatalytic	6.10	0.00
tblWoodstoves	NumberNoncatalytic	12.00	0.00
tblWoodstoves	NumberNoncatalytic	6.10	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.1219	11.1134	9.7657	0.0199	0.1533	0.4765	0.6298	0.0407	0.4504	0.4911			1,922.9997	0.4159	0.0000	1,933.3967
2023	5.6218	54.5223	44.5296	0.1852	11.5218	1.3717	12.8935	4.7862	1.2768	6.0630			19,065.9300	2.4702	0.0000	19,127.6859
2024	5.3044	31.0477	41.8861	0.1250	6.3341	1.0302	7.3643	1.6912	0.9708	2.6620			12,204.2769	1.6312	0.0000	12,245.0559
2025	19.3347	37.9545	55.8161	0.1504	7.0830	1.3071	8.3901	1.8898	1.2318	3.1215			14,639.5461	2.1148	0.0000	14,692.4152
Maximum	**19.3347**	**54.5223**	**55.8161**	**0.1852**	**11.5218**	**1.3717**	**12.8935**	**4.7862**	**1.2768**	**6.0630**			**19,065.9300**	**2.4702**	**0.0000**	**19,127.6859**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.3337	3.6194	11.3950	0.0199	0.1533	0.2213	0.3746	0.0407	0.2212	0.2619			1,922.9997	0.4159	0.0000	1,933.3967
2023	3.9513	39.6151	51.8943	0.1852	7.8189	1.4339	8.6253	2.7638	1.4301	3.5666			19,065.9300	2.4702	0.0000	19,127.6859
2024	3.8346	34.6125	49.7746	0.1250	6.3341	1.4331	7.7672	1.6912	1.4294	3.1205			12,204.2769	1.6312	0.0000	12,245.0559
2025	17.4919	43.1336	65.0953	0.1504	7.0830	1.9375	9.0205	1.8898	1.9334	3.8232			14,639.5461	2.1148	0.0000	14,692.4152
Maximum	**17.4919**	**43.1336**	**65.0953**	**0.1852**	**7.8189**	**1.9375**	**9.0205**	**2.7638**	**1.9334**	**3.8232**			**19,065.9300**	**2.4702**	**0.0000**	**19,127.6859**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**18.39**	**10.14**	**-17.21**	**0.00**	**14.76**	**-20.08**	**11.92**	**24.05**	**-27.59**	**12.69**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Energy	0.1194	1.0200	0.4341	6.5100e-003		0.0825	0.0825		0.0825	0.0825			1,302.1394	0.0250	0.0239	1,309.8773
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	0.7385	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**9.1540**	**3.4277**	**32.1542**	**0.0116**	**0.0000**	**0.3567**	**0.3567**	**0.0000**	**0.3567**	**0.3567**			**1,733.6967**	**0.1294**	**0.0239**	**1,744.0462**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Energy	0.0907	0.7747	0.3297	4.9500e-003		0.0626	0.0626		0.0626	0.0626			989.0333	0.0190	0.0181	994.9106
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	0.7385	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**9.1253**	**3.1825**	**32.0498**	**0.0101**	**0.0000**	**0.3368**	**0.3368**	**0.0000**	**0.3368**	**0.3368**			**1,420.5905**	**0.1234**	**0.0181**	**1,429.0794**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.31	7.16	0.32	13.40	0.00	5.56	5.56	0.00	5.56	5.56	0.00	0.00	18.06	4.64	24.05	18.06

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Drake Demo/Grading	Demolition	11/1/2022	1/31/2023	5	66	
2	Drake Building Construction	Building Construction	2/1/2023	6/30/2025	5	629	
3	Bradley Grading	Grading	5/1/2023	7/31/2023	5	66	
4	Bradley Building	Building Construction	8/1/2023	6/30/2025	5	500	
5	Architectural Coating	Architectural Coating	5/1/2025	7/30/2025	5	65	
6	All paving	Paving	6/1/2025	6/30/2025	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 733,050; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Drake Demo/Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Drake Demo/Grading	Graders	1	8.00	187	0.41
Drake Demo/Grading	Rubber Tired Dozers	0	0.00	247	0.40
Drake Demo/Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Drake Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Drake Building Construction	Cranes	1	8.00	231	0.29
Drake Building Construction	Forklifts	2	7.00	89	0.20
Drake Building Construction	Generator Sets	0	0.00	84	0.74

Drake Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Drake Building Construction	Welders	3	8.00	46	0.45
Bradley Grading	Excavators	2	8.00	158	0.38
Bradley Grading	Graders	1	8.00	187	0.41
Bradley Grading	Rubber Tired Dozers	1	8.00	247	0.40
Bradley Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Bradley Building	Bore/Drill Rigs	1	8.00	221	0.50
Bradley Building	Cranes	1	8.00	231	0.29
Bradley Building	Forklifts	2	7.00	89	0.20
Bradley Building	Generator Sets	0	0.00	84	0.74
Bradley Building	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bradley Building	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	2	6.00	78	0.48
All paving	Cement and Mortar Mixers	1	8.00	9	0.56
All paving	Pavers	1	8.00	130	0.42
All paving	Paving Equipment	1	8.00	132	0.36
All paving	Rollers	1	8.00	80	0.38
All paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Drake Demo/Grading	4	13.00	0.00	22.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drake Building Construction	8	261.00	39.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bradley Grading	6	10.00	0.00	8,200.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bradley Building	8	261.00	39.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	52.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
All paving	5	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Drake Demo/Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0609	10.9911	9.3028	0.0183		0.4751	0.4751		0.4491	0.4491			1,761.1117	0.4102		1,771.3675
Total	**1.0609**	**10.9911**	**9.3028**	**0.0183**		**0.4751**	**0.4751**		**0.4491**	**0.4491**			**1,761.1117**	**0.4102**		**1,771.3675**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7100e-003	0.0840	0.0220	2.5000e-004	8.0300e-003	2.4000e-004	8.2700e-003	2.1400e-003	2.3000e-004	2.3700e-003			27.3939	1.9500e-003		27.4427
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0582	0.0383	0.4409	1.3500e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396			134.4940	3.7000e-003		134.5866
Total	**0.0609**	**0.1223**	**0.4629**	**1.6000e-003**	**0.1533**	**1.3800e-003**	**0.1547**	**0.0407**	**1.2800e-003**	**0.0420**			**161.8879**	**5.6500e-003**		**162.0293**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2727	3.4971	10.9322	0.0183		0.2199	0.2199		0.2199	0.2199			1,761.1117	0.4102		1,771.3675
Total	**0.2727**	**3.4971**	**10.9322**	**0.0183**		**0.2199**	**0.2199**		**0.2199**	**0.2199**			**1,761.1117**	**0.4102**		**1,771.3675**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7100e-003	0.0840	0.0220	2.5000e-004	8.0300e-003	2.4000e-004	8.2700e-003	2.1400e-003	2.3000e-004	2.3700e-003			27.3939	1.9500e-003		27.4427
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0582	0.0383	0.4409	1.3500e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396			134.4940	3.7000e-003		134.5866
Total	**0.0609**	**0.1223**	**0.4629**	**1.6000e-003**	**0.1533**	**1.3800e-003**	**0.1547**	**0.0407**	**1.2800e-003**	**0.0420**			**161.8879**	**5.6500e-003**		**162.0293**

3.2 Drake Demo/Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9821	9.9247	9.2548	0.0183		0.4117	0.4117		0.3890	0.3890			1,761.2797	0.4072		1,771.4586
Total	**0.9821**	**9.9247**	**9.2548**	**0.0183**		**0.4117**	**0.4117**		**0.3890**	**0.3890**			**1,761.2797**	**0.4072**		**1,771.4586**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7800e-003	0.0552	0.0198	2.4000e-004	0.0146	1.0000e-004	0.0148	3.7600e-003	1.0000e-004	3.8600e-003			26.2546	1.8100e-003		26.2998
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0549	0.0346	0.4053	1.3000e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0200e-003	0.0396			129.5737	3.3300e-003		129.6570
Total	**0.0566**	**0.0898**	**0.4251**	**1.5400e-003**	**0.1600**	**1.2100e-003**	**0.1612**	**0.0423**	**1.1200e-003**	**0.0434**			**155.8283**	**5.1400e-003**		**155.9568**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2727	3.4971	10.9322	0.0183		0.2199	0.2199		0.2199	0.2199			1,761.2797	0.4072		1,771.4586
Total	**0.2727**	**3.4971**	**10.9322**	**0.0183**		**0.2199**	**0.2199**		**0.2199**	**0.2199**			**1,761.2797**	**0.4072**		**1,771.4586**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7800e-003	0.0552	0.0198	2.4000e-004	0.0146	1.0000e-004	0.0148	3.7600e-003	1.0000e-004	3.8600e-003			26.2546	1.8100e-003		26.2998
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0549	0.0346	0.4053	1.3000e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0200e-003	0.0396			129.5737	3.3300e-003		129.6570
Total	**0.0566**	**0.0898**	**0.4251**	**1.5400e-003**	**0.1600**	**1.2100e-003**	**0.1612**	**0.0423**	**1.1200e-003**	**0.0434**			**155.8283**	**5.1400e-003**		**155.9568**

3.3 Drake Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6229	12.9479	12.5780	0.0279		0.5514	0.5514		0.5205	0.5205			2,581.8920	0.7016		2,599.4329
Total	**1.6229**	**12.9479**	**12.5780**	**0.0279**		**0.5514**	**0.5514**		**0.5205**	**0.5205**			**2,581.8920**	**0.7016**		**2,599.4329**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0868	2.7198	0.9210	9.3500e-003	0.2497	3.3200e-003	0.2530	0.0719	3.1700e-003	0.0751			1,001.2911	0.0572		1,002.7205
Worker	1.1012	0.6953	8.1371	0.0261	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,601.4407	0.0670		2,603.1144
Total	**1.1880**	**3.4151**	**9.0582**	**0.0355**	**3.1671**	**0.0255**	**3.1926**	**0.8456**	**0.0236**	**0.8692**			**3,602.7318**	**0.1241**		**3,605.8348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,581.8920	0.7016		2,599.4329
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,581.8920**	**0.7016**		**2,599.4329**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0868	2.7198	0.9210	9.3500e-003	0.2497	3.3200e-003	0.2530	0.0719	3.1700e-003	0.0751			1,001.2911	0.0572		1,002.7205
Worker	1.1012	0.6953	8.1371	0.0261	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,601.4407	0.0670		2,603.1144
Total	**1.1880**	**3.4151**	**9.0582**	**0.0355**	**3.1671**	**0.0255**	**3.1926**	**0.8456**	**0.0236**	**0.8692**			**3,602.7318**	**0.1241**		**3,605.8348**

3.3 Drake Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5226	12.1799	12.4746	0.0279		0.4900	0.4900		0.4622	0.4622			2,583.9829	0.6979		2,601.4311
Total	**1.5226**	**12.1799**	**12.4746**	**0.0279**		**0.4900**	**0.4900**		**0.4622**	**0.4622**			**2,583.9829**	**0.6979**		**2,601.4311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0847	2.7101	0.8931	9.3100e-003	0.2497	3.2600e-003	0.2530	0.0719	3.1200e-003	0.0750			997.4077	0.0563		998.8154
Worker	1.0450	0.6339	7.5753	0.0253	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,520.7479	0.0613		2,522.2814
Total	**1.1296**	**3.3440**	**8.4684**	**0.0346**	**3.1671**	**0.0251**	**3.1922**	**0.8456**	**0.0233**	**0.8688**			**3,518.1556**	**0.1177**		**3,521.0968**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,583.9829	0.6979		2,601.4311
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,583.9829**	**0.6979**		**2,601.4311**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0847	2.7101	0.8931	9.3100e-003	0.2497	3.2600e-003	0.2530	0.0719	3.1200e-003	0.0750			997.4077	0.0563		998.8154
Worker	1.0450	0.6339	7.5753	0.0253	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,520.7479	0.0613		2,522.2814
Total	**1.1296**	**3.3440**	**8.4684**	**0.0346**	**3.1671**	**0.0251**	**3.1922**	**0.8456**	**0.0233**	**0.8688**			**3,518.1556**	**0.1177**		**3,521.0968**

3.3 Drake Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4326	11.4933	12.3840	0.0279		0.4358	0.4358		0.4108	0.4108			2,584.1054	0.6936		2,601.4452
Total	**1.4326**	**11.4933**	**12.3840**	**0.0279**		**0.4358**	**0.4358**		**0.4108**	**0.4108**			**2,584.1054**	**0.6936**		**2,601.4452**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.6871	0.8703	9.2500e-003	0.2497	3.2000e-003	0.2529	0.0719	3.0600e-003	0.0750			992.0596	0.0555		993.4461
Worker	0.9954	0.5799	7.0290	0.0243	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,423.1680	0.0559		2,424.5657
Total	**1.0779**	**3.2670**	**7.8993**	**0.0336**	**3.1671**	**0.0246**	**3.1917**	**0.8456**	**0.0228**	**0.8684**			**3,415.2275**	**0.1114**		**3,418.0118**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,584.1054	0.6936		2,601.4452
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,584.1054**	**0.6936**		**2,601.4452**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.6871	0.8703	9.2500e-003	0.2497	3.2000e-003	0.2529	0.0719	3.0600e-003	0.0750			992.0596	0.0555		993.4461
Worker	0.9954	0.5799	7.0290	0.0243	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,423.1680	0.0559		2,424.5657
Total	**1.0779**	**3.2670**	**7.8993**	**0.0336**	**3.1671**	**0.0246**	**3.1917**	**0.8456**	**0.0228**	**0.8684**			**3,415.2275**	**0.1114**		**3,418.0118**

3.4 Bradley Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0703	0.0000	6.0703	3.3154	0.0000	3.3154			0.0000			0.0000
Off-Road	1.7104	17.5649	15.2193	0.0309		0.7560	0.7560		0.6955	0.6955			2,995.8260	0.9689		3,020.0488
Total	**1.7104**	**17.5649**	**15.2193**	**0.0309**	**6.0703**	**0.7560**	**6.8263**	**3.3154**	**0.6955**	**4.0109**			**2,995.8260**	**0.9689**		**3,020.0488**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6628	20.5677	7.3624	0.0899	2.1726	0.0380	2.2107	0.5956	0.0364	0.6320			9,785.8081	0.6730		9,802.6332
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0422	0.0266	0.3118	1.0000e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304			99.6721	2.5700e-003		99.7362
Total	**0.7050**	**20.5944**	**7.6742**	**0.0909**	**2.2844**	**0.0389**	**2.3233**	**0.6252**	**0.0372**	**0.6624**			**9,885.4802**	**0.6756**		**9,902.3694**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3674	0.0000	2.3674	1.2930	0.0000	1.2930			0.0000			0.0000
Off-Road	0.3792	1.6433	18.7431	0.0309		0.0506	0.0506		0.0506	0.0506			2,995.8260	0.9689		3,020.0488
Total	**0.3792**	**1.6433**	**18.7431**	**0.0309**	**2.3674**	**0.0506**	**2.4180**	**1.2930**	**0.0506**	**1.3436**			**2,995.8260**	**0.9689**		**3,020.0488**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6628	20.5677	7.3624	0.0899	2.1726	0.0380	2.2107	0.5956	0.0364	0.6320			9,785.8081	0.6730		9,802.6332
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0422	0.0266	0.3118	1.0000e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304			99.6721	2.5700e-003		99.7362
Total	**0.7050**	**20.5944**	**7.6742**	**0.0909**	**2.2844**	**0.0389**	**2.3233**	**0.6252**	**0.0372**	**0.6624**			**9,885.4802**	**0.6756**		**9,902.3694**

3.5 Bradley Building - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6229	12.9479	12.5780	0.0279		0.5514	0.5514		0.5205	0.5205			2,581.8920	0.7016		2,599.4329
Total	**1.6229**	**12.9479**	**12.5780**	**0.0279**		**0.5514**	**0.5514**		**0.5205**	**0.5205**			**2,581.8920**	**0.7016**		**2,599.4329**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0868	2.7198	0.9210	9.3500e-003	0.2497	3.3200e-003	0.2530	0.0719	3.1700e-003	0.0751			1,001.2911	0.0572		1,002.7205
Worker	1.1012	0.6953	8.1371	0.0261	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,601.4407	0.0670		2,603.1144
Total	**1.1880**	**3.4151**	**9.0582**	**0.0355**	**3.1671**	**0.0255**	**3.1926**	**0.8456**	**0.0236**	**0.8692**			**3,602.7318**	**0.1241**		**3,605.8348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,581.8920	0.7016		2,599.4329
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,581.8920**	**0.7016**		**2,599.4329**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0868	2.7198	0.9210	9.3500e-003	0.2497	3.3200e-003	0.2530	0.0719	3.1700e-003	0.0751			1,001.2911	0.0572		1,002.7205
Worker	1.1012	0.6953	8.1371	0.0261	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,601.4407	0.0670		2,603.1144
Total	**1.1880**	**3.4151**	**9.0582**	**0.0355**	**3.1671**	**0.0255**	**3.1926**	**0.8456**	**0.0236**	**0.8692**			**3,602.7318**	**0.1241**		**3,605.8348**

3.5 Bradley Building - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5226	12.1799	12.4746	0.0279		0.4900	0.4900		0.4622	0.4622			2,583.9829	0.6979		2,601.4311
Total	**1.5226**	**12.1799**	**12.4746**	**0.0279**		**0.4900**	**0.4900**		**0.4622**	**0.4622**			**2,583.9829**	**0.6979**		**2,601.4311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0847	2.7101	0.8931	9.3100e-003	0.2497	3.2600e-003	0.2530	0.0719	3.1200e-003	0.0750			997.4077	0.0563		998.8154
Worker	1.0450	0.6339	7.5753	0.0253	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,520.7479	0.0613		2,522.2814
Total	**1.1296**	**3.3440**	**8.4684**	**0.0346**	**3.1671**	**0.0251**	**3.1922**	**0.8456**	**0.0233**	**0.8688**			**3,518.1556**	**0.1177**		**3,521.0968**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,583.9829	0.6979		2,601.4311
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,583.9829**	**0.6979**		**2,601.4311**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0847	2.7101	0.8931	9.3100e-003	0.2497	3.2600e-003	0.2530	0.0719	3.1200e-003	0.0750			997.4077	0.0563		998.8154
Worker	1.0450	0.6339	7.5753	0.0253	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,520.7479	0.0613		2,522.2814
Total	**1.1296**	**3.3440**	**8.4684**	**0.0346**	**3.1671**	**0.0251**	**3.1922**	**0.8456**	**0.0233**	**0.8688**			**3,518.1556**	**0.1177**		**3,521.0968**

3.5 Bradley Building - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4326	11.4933	12.3840	0.0279		0.4358	0.4358		0.4108	0.4108			2,584.1054	0.6936		2,601.4452
Total	**1.4326**	**11.4933**	**12.3840**	**0.0279**		**0.4358**	**0.4358**		**0.4108**	**0.4108**			**2,584.1054**	**0.6936**		**2,601.4452**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.6871	0.8703	9.2500e-003	0.2497	3.2000e-003	0.2529	0.0719	3.0600e-003	0.0750			992.0596	0.0555		993.4461
Worker	0.9954	0.5799	7.0290	0.0243	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,423.1680	0.0559		2,424.5657
Total	**1.0779**	**3.2670**	**7.8993**	**0.0336**	**3.1671**	**0.0246**	**3.1917**	**0.8456**	**0.0228**	**0.8684**			**3,415.2275**	**0.1114**		**3,418.0118**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,584.1054	0.6936		2,601.4452
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,584.1054**	**0.6936**		**2,601.4452**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.6871	0.8703	9.2500e-003	0.2497	3.2000e-003	0.2529	0.0719	3.0600e-003	0.0750			992.0596	0.0555		993.4461
Worker	0.9954	0.5799	7.0290	0.0243	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,423.1680	0.0559		2,424.5657
Total	**1.0779**	**3.2670**	**7.8993**	**0.0336**	**3.1671**	**0.0246**	**3.1917**	**0.8456**	**0.0228**	**0.8684**			**3,415.2275**	**0.1114**		**3,418.0118**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.0680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3417	2.2910	3.6183	5.9400e-003		0.1030	0.1030		0.1030	0.1030			562.8961	0.0307		563.6637
Total	**13.4098**	**2.2910**	**3.6183**	**5.9400e-003**		**0.1030**	**0.1030**		**0.1030**	**0.1030**			**562.8961**	**0.0307**		**563.6637**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1983	0.1155	1.4004	4.8400e-003	0.5812	4.2700e-003	0.5855	0.1542	3.9300e-003	0.1581			482.7768	0.0111		483.0552
Total	**0.1983**	**0.1155**	**1.4004**	**4.8400e-003**	**0.5812**	**4.2700e-003**	**0.5855**	**0.1542**	**3.9300e-003**	**0.1581**			**482.7768**	**0.0111**		**483.0552**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.0680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1189	2.7140	3.6648	5.9400e-003		0.1902	0.1902		0.1902	0.1902			562.8961	0.0307		563.6637
Total	**13.1869**	**2.7140**	**3.6648**	**5.9400e-003**		**0.1902**	**0.1902**		**0.1902**	**0.1902**			**562.8961**	**0.0307**		**563.6637**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1983	0.1155	1.4004	4.8400e-003	0.5812	4.2700e-003	0.5855	0.1542	3.9300e-003	0.1581			482.7768	0.0111		483.0552
Total	**0.1983**	**0.1155**	**1.4004**	**4.8400e-003**	**0.5812**	**4.2700e-003**	**0.5855**	**0.1542**	**3.9300e-003**	**0.1581**			**482.7768**	**0.0111**		**483.0552**

3.7 All paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6485	5.9941	9.8270	0.0152		0.2777	0.2777		0.2566	0.2566			1,455.9447	0.4598		1,467.4395
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6485**	**5.9941**	**9.8270**	**0.0152**		**0.2777**	**0.2777**		**0.2566**	**0.2566**			**1,455.9447**	**0.4598**		**1,467.4395**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0572	0.0333	0.4040	1.4000e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456			139.2625	3.2100e-003		139.3429
Total	**0.0572**	**0.0333**	**0.4040**	**1.4000e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1300e-003**	**0.0456**			**139.2625**	**3.2100e-003**		**139.3429**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3185	5.8122	10.9899	0.0152		0.3097	0.3097		0.3097	0.3097			1,455.9447	0.4598		1,467.4395
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3185**	**5.8122**	**10.9899**	**0.0152**		**0.3097**	**0.3097**		**0.3097**	**0.3097**			**1,455.9447**	**0.4598**		**1,467.4395**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0572	0.0333	0.4040	1.4000e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456			139.2625	3.2100e-003		139.3429
Total	**0.0572**	**0.0333**	**0.4040**	**1.4000e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1300e-003**	**0.0456**			**139.2625**	**3.2100e-003**		**139.3429**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments Mid Rise	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments Mid Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0907	0.7747	0.3297	4.9500e-003		0.0626	0.0626		0.0626	0.0626			989.0333	0.0190	0.0181	994.9106
NaturalGas Unmitigated	0.1194	1.0200	0.4341	6.5100e-003		0.0825	0.0825		0.0825	0.0825			1,302.1394	0.0250	0.0239	1,309.8773

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	7338.02	0.0791	0.6763	0.2878	4.3200e-003		0.0547	0.0547		0.0547	0.0547			863.2968	0.0166	0.0158	868.4270
Apartments Mid Rise	3730.16	0.0402	0.3438	0.1463	2.1900e-003		0.0278	0.0278		0.0278	0.0278			438.8426	8.4100e-003	8.0500e-003	441.4504
Total		**0.1194**	**1.0200**	**0.4341**	**6.5100e-003**		**0.0825**	**0.0825**		**0.0825**	**0.0825**			**1,302.1394**	**0.0250**	**0.0239**	**1,309.8773**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	5.57356	0.0601	0.5136	0.2186	3.2800e-003		0.0415	0.0415		0.0415	0.0415			655.7127	0.0126	0.0120	659.6092
Apartments Mid Rise	2.83323	0.0306	0.2611	0.1111	1.6700e-003		0.0211	0.0211		0.0211	0.0211			333.3206	6.3900e-003	6.1100e-003	335.3014
Total		**0.0907**	**0.7747**	**0.3297**	**4.9500e-003**		**0.0626**	**0.0626**		**0.0626**	**0.0626**			**989.0333**	**0.0190**	**0.0181**	**994.9106**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Unmitigated	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1676					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.8959	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515		55.0634
Total	**8.2962**	**0.3437**	**29.8372**	**1.5800e-003**		**0.1656**	**0.1656**		**0.1656**	**0.1656**			**53.7759**	**0.0515**	**0.0000**	**55.0634**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1676					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.8959	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515		55.0634
Total	**8.2962**	**0.3437**	**29.8372**	**1.5800e-003**		**0.1656**	**0.1656**		**0.1656**	**0.1656**			**53.7759**	**0.0515**	**0.0000**	**55.0634**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	6	500	0.73	Diesel
Emergency Generator	1	0.5	6	400	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.7385	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**0.7385**	**2.0640**	**1.8830**	**3.5500e-003**		**0.1086**	**0.1086**		**0.1086**	**0.1086**			**377.7814**	**0.0530**		**379.1055**

11.0 Vegetation

UCLA LRDP Amendment & Student Housing - Bradley Drake

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	240.00	Dwelling Unit	1.30	240,000.00	800
Apartments Mid Rise	122.00	Dwelling Unit	1.10	122,000.00	600

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1028.4	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Start 11/1/2022
CO2 intensity with 33% renew in 2025

Land Use - Bradley 122 du, 1.1 ac. 600 pop; Drake 240 du, 1.3 ac, 800 pop

Construction Phase - Const schedule per PD. One month assumed for all paving

Off-road Equipment - 3 sites grading

Off-road Equipment - 1 roller

Off-road Equipment - 2 projects paint

Off-road Equipment - No generator needed; add drill rig

Off-road Equipment - Add 2 excavators

Off-road Equipment - No generator needed; add drill rig

Off-road Equipment - Drake-sidewalk demo; minimal site prep/grading

Trips and VMT - Haul Truck trips per UCLA; Worker-vendor per appx A

Demolition -

Grading -

Architectural Coating - No exterior coating.
Reactivity adjusted VOC

Vehicle Trips - No added vehicle trips

Woodstoves - No woodstoves or fireplaces

Area Coating - No exterior coating
Reactivity adjusted VOC

Energy Use - x

Water And Wastewater - Water data from WSA
No added landscape water

Construction Off-road Equipment Mitigation - Excavators, graders, dozer, loader for Brad Grading Tier 4
All other Tier 3

Energy Mitigation - 20% better than 2016 code = 42.4% better than 2013

Waste Mitigation -

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Emerg generators 0.5 hrs once per month

Stationary Sources - Process Boilers -

Solid Waste - By 2025 all solid waste will be diverted from landfill

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	244,350.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblAreaCoating	Area_EF_Residential_Interior	50	25
tblAreaCoating	Area_Residential_Exterior	244350	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblFireplaces	NumberGas	204.00	0.00
tblFireplaces	NumberGas	103.70	0.00
tblFireplaces	NumberNoFireplace	24.00	240.00
tblFireplaces	NumberNoFireplace	12.20	122.00
tblFireplaces	NumberWood	12.00	0.00
tblFireplaces	NumberWood	6.10	0.00
tblGrading	AcresOfGrading	33.00	3.00

tblLandUse	LotAcreage	3.87	1.30
tblLandUse	LotAcreage	3.21	1.10
tblLandUse	Population	686.00	800.00
tblLandUse	Population	349.00	600.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1028.4
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	110.40	0.00
tblSolidWaste	SolidWasteGenerationRate	56.12	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	22.00
tblTripsAndVMT	HaulingTripNumber	0.00	8,200.00
tblTripsAndVMT	WorkerTripNumber	10.00	13.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	ST_TR	4.98	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	SU_TR	3.65	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	WD_TR	4.20	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblWater	IndoorWaterUseRate	15,636,966.15	18,204,010.00

tblWater	IndoorWaterUseRate	7,948,791.13	12,781,935.00
tblWater	OutdoorWaterUseRate	9,858,087.35	0.00
tblWater	OutdoorWaterUseRate	5,011,194.41	0.00
tblWoodstoves	NumberCatalytic	12.00	0.00
tblWoodstoves	NumberCatalytic	6.10	0.00
tblWoodstoves	NumberNoncatalytic	12.00	0.00
tblWoodstoves	NumberNoncatalytic	6.10	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.1158	11.1088	9.8066	0.0200	0.1533	0.4765	0.6298	0.0407	0.4504	0.4911			1,931.8255	0.4161	0.0000	1,942.2269
2023	5.3791	54.3217	44.9777	0.1887	11.5218	1.3706	12.8923	4.7862	1.2756	6.0619			19,434.2788	2.4530	0.0000	19,495.6029
2024	5.0682	30.9496	43.2424	0.1287	6.3341	1.0299	7.3640	1.6912	0.9706	2.6617			12,572.1304	1.6333	0.0000	12,612.9640
2025	19.0754	37.8525	57.2633	0.1543	7.0830	1.3068	8.3898	1.8898	1.2315	3.1213			15,033.0365	2.1175	0.0000	15,085.9739
Maximum	**19.0754**	**54.3217**	**57.2633**	**0.1887**	**11.5218**	**1.3706**	**12.8923**	**4.7862**	**1.2756**	**6.0619**			**19,434.2788**	**2.4530**	**0.0000**	**19,495.6029**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.3276	3.6147	11.4360	0.0200	0.1533	0.2213	0.3746	0.0407	0.2212	0.2619			1,931.8255	0.4161	0.0000	1,942.2269
2023	3.7087	39.4145	52.3930	0.1887	7.8189	1.4335	8.6241	2.7638	1.4298	3.5655			19,434.2788	2.4530	0.0000	19,495.6029
2024	3.5984	34.5144	51.1308	0.1287	6.3341	1.4328	7.7670	1.6912	1.4291	3.1203			12,572.1304	1.6333	0.0000	12,612.9640
2025	17.2327	43.0315	66.5425	0.1543	7.0830	1.9372	9.0203	1.8898	1.9331	3.8229			15,033.0365	2.1175	0.0000	15,085.9739
Maximum	**17.2327**	**43.0315**	**66.5425**	**0.1887**	**7.8189**	**1.9372**	**9.0203**	**2.7638**	**1.9331**	**3.8229**			**19,434.2788**	**2.4530**	**0.0000**	**19,495.6029**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**18.84**	**10.17**	**-16.88**	**0.00**	**14.76**	**-20.11**	**11.92**	**24.05**	**-27.62**	**12.69**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Energy	0.1194	1.0200	0.4341	6.5100e-003		0.0825	0.0825		0.0825	0.0825			1,302.1394	0.0250	0.0239	1,309.8773
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	0.7385	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**9.1540**	**3.4277**	**32.1542**	**0.0116**	**0.0000**	**0.3567**	**0.3567**	**0.0000**	**0.3567**	**0.3567**			**1,733.6967**	**0.1294**	**0.0239**	**1,744.0462**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Energy	0.0907	0.7747	0.3297	4.9500e-003		0.0626	0.0626		0.0626	0.0626			989.0333	0.0190	0.0181	994.9106
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Stationary	0.7385	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**9.1253**	**3.1825**	**32.0498**	**0.0101**	**0.0000**	**0.3368**	**0.3368**	**0.0000**	**0.3368**	**0.3368**			**1,420.5905**	**0.1234**	**0.0181**	**1,429.0794**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.31	7.16	0.32	13.40	0.00	5.56	5.56	0.00	5.56	5.56	0.00	0.00	18.06	4.64	24.05	18.06

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Drake Demo/Grading	Demolition	11/1/2022	1/31/2023	5	66	
2	Drake Building Construction	Building Construction	2/1/2023	6/30/2025	5	629	
3	Bradley Grading	Grading	5/1/2023	7/31/2023	5	66	
4	Bradley Building	Building Construction	8/1/2023	6/30/2025	5	500	
5	Architectural Coating	Architectural Coating	5/1/2025	7/30/2025	5	65	
6	All paving	Paving	6/1/2025	6/30/2025	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 733,050; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Drake Demo/Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Drake Demo/Grading	Graders	1	8.00	187	0.41
Drake Demo/Grading	Rubber Tired Dozers	0	0.00	247	0.40
Drake Demo/Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Drake Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Drake Building Construction	Cranes	1	8.00	231	0.29
Drake Building Construction	Forklifts	2	7.00	89	0.20
Drake Building Construction	Generator Sets	0	0.00	84	0.74

Drake Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Drake Building Construction	Welders	3	8.00	46	0.45
Bradley Grading	Excavators	2	8.00	158	0.38
Bradley Grading	Graders	1	8.00	187	0.41
Bradley Grading	Rubber Tired Dozers	1	8.00	247	0.40
Bradley Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Bradley Building	Bore/Drill Rigs	1	8.00	221	0.50
Bradley Building	Cranes	1	8.00	231	0.29
Bradley Building	Forklifts	2	7.00	89	0.20
Bradley Building	Generator Sets	0	0.00	84	0.74
Bradley Building	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bradley Building	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	2	6.00	78	0.48
All paving	Cement and Mortar Mixers	1	8.00	9	0.56
All paving	Pavers	1	8.00	130	0.42
All paving	Paving Equipment	1	8.00	132	0.36
All paving	Rollers	1	8.00	80	0.38
All paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Drake Demo/Grading	4	13.00	0.00	22.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drake Building Construction	8	261.00	39.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bradley Grading	6	10.00	0.00	8,200.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bradley Building	8	261.00	39.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	52.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
All paving	5	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Drake Demo/Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0609	10.9911	9.3028	0.0183		0.4751	0.4751		0.4491	0.4491			1,761.1117	0.4102		1,771.3675
Total	**1.0609**	**10.9911**	**9.3028**	**0.0183**		**0.4751**	**0.4751**		**0.4491**	**0.4491**			**1,761.1117**	**0.4102**		**1,771.3675**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6400e-003	0.0831	0.0208	2.6000e-004	8.0300e-003	2.4000e-004	8.2700e-003	2.1400e-003	2.3000e-004	2.3700e-003			27.8812	1.8900e-003		27.9283
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0522	0.0346	0.4831	1.4300e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396			142.8326	3.9400e-003		142.9312
Total	**0.0548**	**0.1177**	**0.5038**	**1.6900e-003**	**0.1533**	**1.3800e-003**	**0.1547**	**0.0407**	**1.2800e-003**	**0.0420**			**170.7138**	**5.8300e-003**		**170.8595**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2727	3.4971	10.9322	0.0183		0.2199	0.2199		0.2199	0.2199			1,761.1117	0.4102		1,771.3675
Total	**0.2727**	**3.4971**	**10.9322**	**0.0183**		**0.2199**	**0.2199**		**0.2199**	**0.2199**			**1,761.1117**	**0.4102**		**1,771.3675**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6400e-003	0.0831	0.0208	2.6000e-004	8.0300e-003	2.4000e-004	8.2700e-003	2.1400e-003	2.3000e-004	2.3700e-003			27.8812	1.8900e-003		27.9283
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0522	0.0346	0.4831	1.4300e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396			142.8326	3.9400e-003		142.9312
Total	**0.0548**	**0.1177**	**0.5038**	**1.6900e-003**	**0.1533**	**1.3800e-003**	**0.1547**	**0.0407**	**1.2800e-003**	**0.0420**			**170.7138**	**5.8300e-003**		**170.8595**

3.2 Drake Demo/Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9821	9.9247	9.2548	0.0183		0.4117	0.4117		0.3890	0.3890			1,761.2797	0.4072		1,771.4586
Total	**0.9821**	**9.9247**	**9.2548**	**0.0183**		**0.4117**	**0.4117**		**0.3890**	**0.3890**			**1,761.2797**	**0.4072**		**1,771.4586**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7300e-003	0.0548	0.0189	2.5000e-004	0.0146	1.0000e-004	0.0147	3.7600e-003	9.0000e-005	3.8600e-003			26.7188	1.7600e-003		26.7627
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0490	0.0313	0.4449	1.3800e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0200e-003	0.0396			137.6027	3.5500e-003		137.6915
Total	**0.0508**	**0.0861**	**0.4638**	**1.6300e-003**	**0.1600**	**1.2100e-003**	**0.1612**	**0.0423**	**1.1100e-003**	**0.0434**			**164.3215**	**5.3100e-003**		**164.4542**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2727	3.4971	10.9322	0.0183		0.2199	0.2199		0.2199	0.2199			1,761.2797	0.4072		1,771.4586
Total	**0.2727**	**3.4971**	**10.9322**	**0.0183**		**0.2199**	**0.2199**		**0.2199**	**0.2199**			**1,761.2797**	**0.4072**		**1,771.4586**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7300e-003	0.0548	0.0189	2.5000e-004	0.0146	1.0000e-004	0.0147	3.7600e-003	9.0000e-005	3.8600e-003			26.7188	1.7600e-003		26.7627
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0490	0.0313	0.4449	1.3800e-003	0.1453	1.1100e-003	0.1464	0.0385	1.0200e-003	0.0396			137.6027	3.5500e-003		137.6915
Total	**0.0508**	**0.0861**	**0.4638**	**1.6300e-003**	**0.1600**	**1.2100e-003**	**0.1612**	**0.0423**	**1.1100e-003**	**0.0434**			**164.3215**	**5.3100e-003**		**164.4542**

3.3 Drake Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6229	12.9479	12.5780	0.0279		0.5514	0.5514		0.5205	0.5205			2,581.8920	0.7016		2,599.4329
Total	**1.6229**	**12.9479**	**12.5780**	**0.0279**		**0.5514**	**0.5514**		**0.5205**	**0.5205**			**2,581.8920**	**0.7016**		**2,599.4329**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.7322	0.8459	9.6100e-003	0.2497	3.1600e-003	0.2529	0.0719	3.0200e-003	0.0749			1,029.2390	0.0540		1,030.5900
Worker	0.9841	0.6285	8.9318	0.0277	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,762.6380	0.0714		2,764.4221
Total	**1.0667**	**3.3607**	**9.7776**	**0.0373**	**3.1671**	**0.0254**	**3.1924**	**0.8456**	**0.0235**	**0.8690**			**3,791.8770**	**0.1254**		**3,795.0121**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,581.8920	0.7016		2,599.4329
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,581.8920**	**0.7016**		**2,599.4329**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.7322	0.8459	9.6100e-003	0.2497	3.1600e-003	0.2529	0.0719	3.0200e-003	0.0749			1,029.2390	0.0540		1,030.5900
Worker	0.9841	0.6285	8.9318	0.0277	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,762.6380	0.0714		2,764.4221
Total	**1.0667**	**3.3607**	**9.7776**	**0.0373**	**3.1671**	**0.0254**	**3.1924**	**0.8456**	**0.0235**	**0.8690**			**3,791.8770**	**0.1254**		**3,795.0121**

3.3 Drake Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5226	12.1799	12.4746	0.0279		0.4900	0.4900		0.4622	0.4622			2,583.9829	0.6979		2,601.4311
Total	**1.5226**	**12.1799**	**12.4746**	**0.0279**		**0.4900**	**0.4900**		**0.4622**	**0.4622**			**2,583.9829**	**0.6979**		**2,601.4311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0806	2.7218	0.8201	9.5600e-003	0.2497	3.1200e-003	0.2528	0.0719	2.9800e-003	0.0749			1,025.0621	0.0533		1,026.3939
Worker	0.9310	0.5731	8.3265	0.0269	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,677.0203	0.0655		2,678.6570
Total	**1.0115**	**3.2949**	**9.1465**	**0.0364**	**3.1671**	**0.0250**	**3.1921**	**0.8456**	**0.0231**	**0.8687**			**3,702.0824**	**0.1187**		**3,705.0509**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,583.9829	0.6979		2,601.4311
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,583.9829**	**0.6979**		**2,601.4311**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0806	2.7218	0.8201	9.5600e-003	0.2497	3.1200e-003	0.2528	0.0719	2.9800e-003	0.0749			1,025.0621	0.0533		1,026.3939
Worker	0.9310	0.5731	8.3265	0.0269	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,677.0203	0.0655		2,678.6570
Total	**1.0115**	**3.2949**	**9.1465**	**0.0364**	**3.1671**	**0.0250**	**3.1921**	**0.8456**	**0.0231**	**0.8687**			**3,702.0824**	**0.1187**		**3,705.0509**

3.3 Drake Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4326	11.4933	12.3840	0.0279		0.4358	0.4358		0.4108	0.4108			2,584.1054	0.6936		2,601.4452
Total	**1.4326**	**11.4933**	**12.3840**	**0.0279**		**0.4358**	**0.4358**		**0.4108**	**0.4108**			**2,584.1054**	**0.6936**		**2,601.4452**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0785	2.6987	0.7990	9.5000e-003	0.2497	3.0700e-003	0.2528	0.0719	2.9300e-003	0.0748			1,019.4139	0.0525		1,020.7270
Worker	0.8840	0.5244	7.7334	0.0258	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,573.2903	0.0597		2,574.7833
Total	**0.9625**	**3.2231**	**8.5324**	**0.0353**	**3.1671**	**0.0245**	**3.1916**	**0.8456**	**0.0226**	**0.8682**			**3,592.7042**	**0.1122**		**3,595.5103**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,584.1054	0.6936		2,601.4452
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,584.1054**	**0.6936**		**2,601.4452**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0785	2.6987	0.7990	9.5000e-003	0.2497	3.0700e-003	0.2528	0.0719	2.9300e-003	0.0748			1,019.4139	0.0525		1,020.7270
Worker	0.8840	0.5244	7.7334	0.0258	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,573.2903	0.0597		2,574.7833
Total	**0.9625**	**3.2231**	**8.5324**	**0.0353**	**3.1671**	**0.0245**	**3.1916**	**0.8456**	**0.0226**	**0.8682**			**3,592.7042**	**0.1122**		**3,595.5103**

3.4 Bradley Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0703	0.0000	6.0703	3.3154	0.0000	3.3154			0.0000			0.0000
Off-Road	1.7104	17.5649	15.2193	0.0309		0.7560	0.7560		0.6955	0.6955			2,995.8260	0.9689		3,020.0488
Total	**1.7104**	**17.5649**	**15.2193**	**0.0309**	**6.0703**	**0.7560**	**6.8263**	**3.3154**	**0.6955**	**4.0109**			**2,995.8260**	**0.9689**		**3,020.0488**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6466	20.4242	7.0606	0.0915	2.1726	0.0370	2.2097	0.5956	0.0354	0.6310			9,958.8356	0.6543		9,975.1926
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0377	0.0241	0.3422	1.0600e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304			105.8482	2.7300e-003		105.9166
Total	**0.6843**	**20.4483**	**7.4028**	**0.0925**	**2.2844**	**0.0379**	**2.3223**	**0.6252**	**0.0362**	**0.6614**			**10,064.6838**	**0.6570**		**10,081.1092**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3674	0.0000	2.3674	1.2930	0.0000	1.2930			0.0000			0.0000
Off-Road	0.3792	1.6433	18.7431	0.0309		0.0506	0.0506		0.0506	0.0506			2,995.8260	0.9689		3,020.0488
Total	**0.3792**	**1.6433**	**18.7431**	**0.0309**	**2.3674**	**0.0506**	**2.4180**	**1.2930**	**0.0506**	**1.3436**			**2,995.8260**	**0.9689**		**3,020.0488**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6466	20.4242	7.0606	0.0915	2.1726	0.0370	2.2097	0.5956	0.0354	0.6310			9,958.8356	0.6543		9,975.1926
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0377	0.0241	0.3422	1.0600e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304			105.8482	2.7300e-003		105.9166
Total	**0.6843**	**20.4483**	**7.4028**	**0.0925**	**2.2844**	**0.0379**	**2.3223**	**0.6252**	**0.0362**	**0.6614**			**10,064.6838**	**0.6570**		**10,081.1092**

3.5 Bradley Building - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6229	12.9479	12.5780	0.0279		0.5514	0.5514		0.5205	0.5205			2,581.8920	0.7016		2,599.4329
Total	**1.6229**	**12.9479**	**12.5780**	**0.0279**		**0.5514**	**0.5514**		**0.5205**	**0.5205**			**2,581.8920**	**0.7016**		**2,599.4329**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.7322	0.8459	9.6100e-003	0.2497	3.1600e-003	0.2529	0.0719	3.0200e-003	0.0749			1,029.2390	0.0540		1,030.5900
Worker	0.9841	0.6285	8.9318	0.0277	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,762.6380	0.0714		2,764.4221
Total	**1.0667**	**3.3607**	**9.7776**	**0.0373**	**3.1671**	**0.0254**	**3.1924**	**0.8456**	**0.0235**	**0.8690**			**3,791.8770**	**0.1254**		**3,795.0121**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,581.8920	0.7016		2,599.4329
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,581.8920**	**0.7016**		**2,599.4329**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0825	2.7322	0.8459	9.6100e-003	0.2497	3.1600e-003	0.2529	0.0719	3.0200e-003	0.0749			1,029.2390	0.0540		1,030.5900
Worker	0.9841	0.6285	8.9318	0.0277	2.9174	0.0222	2.9396	0.7737	0.0204	0.7941			2,762.6380	0.0714		2,764.4221
Total	**1.0667**	**3.3607**	**9.7776**	**0.0373**	**3.1671**	**0.0254**	**3.1924**	**0.8456**	**0.0235**	**0.8690**			**3,791.8770**	**0.1254**		**3,795.0121**

3.5 Bradley Building - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5226	12.1799	12.4746	0.0279		0.4900	0.4900		0.4622	0.4622			2,583.9829	0.6979		2,601.4311
Total	**1.5226**	**12.1799**	**12.4746**	**0.0279**		**0.4900**	**0.4900**		**0.4622**	**0.4622**			**2,583.9829**	**0.6979**		**2,601.4311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0806	2.7218	0.8201	9.5600e-003	0.2497	3.1200e-003	0.2528	0.0719	2.9800e-003	0.0749			1,025.0621	0.0533		1,026.3939
Worker	0.9310	0.5731	8.3265	0.0269	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,677.0203	0.0655		2,678.6570
Total	**1.0115**	**3.2949**	**9.1465**	**0.0364**	**3.1671**	**0.0250**	**3.1921**	**0.8456**	**0.0231**	**0.8687**			**3,702.0824**	**0.1187**		**3,705.0509**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,583.9829	0.6979		2,601.4311
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,583.9829**	**0.6979**		**2,601.4311**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0806	2.7218	0.8201	9.5600e-003	0.2497	3.1200e-003	0.2528	0.0719	2.9800e-003	0.0749			1,025.0621	0.0533		1,026.3939
Worker	0.9310	0.5731	8.3265	0.0269	2.9174	0.0219	2.9392	0.7737	0.0201	0.7938			2,677.0203	0.0655		2,678.6570
Total	**1.0115**	**3.2949**	**9.1465**	**0.0364**	**3.1671**	**0.0250**	**3.1921**	**0.8456**	**0.0231**	**0.8687**			**3,702.0824**	**0.1187**		**3,705.0509**

3.5 Bradley Building - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4326	11.4933	12.3840	0.0279		0.4358	0.4358		0.4108	0.4108			2,584.1054	0.6936		2,601.4452
Total	**1.4326**	**11.4933**	**12.3840**	**0.0279**		**0.4358**	**0.4358**		**0.4108**	**0.4108**			**2,584.1054**	**0.6936**		**2,601.4452**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0785	2.6987	0.7990	9.5000e-003	0.2497	3.0700e-003	0.2528	0.0719	2.9300e-003	0.0748			1,019.4139	0.0525		1,020.7270
Worker	0.8840	0.5244	7.7334	0.0258	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,573.2903	0.0597		2,574.7833
Total	**0.9625**	**3.2231**	**8.5324**	**0.0353**	**3.1671**	**0.0245**	**3.1916**	**0.8456**	**0.0226**	**0.8682**			**3,592.7042**	**0.1122**		**3,595.5103**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7877	13.9623	16.4189	0.0279		0.6914	0.6914		0.6914	0.6914			2,584.1054	0.6936		2,601.4452
Total	**0.7877**	**13.9623**	**16.4189**	**0.0279**		**0.6914**	**0.6914**		**0.6914**	**0.6914**			**2,584.1054**	**0.6936**		**2,601.4452**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0785	2.6987	0.7990	9.5000e-003	0.2497	3.0700e-003	0.2528	0.0719	2.9300e-003	0.0748			1,019.4139	0.0525		1,020.7270
Worker	0.8840	0.5244	7.7334	0.0258	2.9174	0.0214	2.9388	0.7737	0.0197	0.7934			2,573.2903	0.0597		2,574.7833
Total	**0.9625**	**3.2231**	**8.5324**	**0.0353**	**3.1671**	**0.0245**	**3.1916**	**0.8456**	**0.0226**	**0.8682**			**3,592.7042**	**0.1122**		**3,595.5103**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.0680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3417	2.2910	3.6183	5.9400e-003		0.1030	0.1030		0.1030	0.1030			562.8961	0.0307		563.6637
Total	**13.4098**	**2.2910**	**3.6183**	**5.9400e-003**		**0.1030**	**0.1030**		**0.1030**	**0.1030**			**562.8961**	**0.0307**		**563.6637**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1761	0.1045	1.5408	5.1400e-003	0.5812	4.2700e-003	0.5855	0.1542	3.9300e-003	0.1581			512.6862	0.0119		512.9837
Total	**0.1761**	**0.1045**	**1.5408**	**5.1400e-003**	**0.5812**	**4.2700e-003**	**0.5855**	**0.1542**	**3.9300e-003**	**0.1581**			**512.6862**	**0.0119**		**512.9837**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.0680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1189	2.7140	3.6648	5.9400e-003		0.1902	0.1902		0.1902	0.1902			562.8961	0.0307		563.6637
Total	**13.1869**	**2.7140**	**3.6648**	**5.9400e-003**		**0.1902**	**0.1902**		**0.1902**	**0.1902**			**562.8961**	**0.0307**		**563.6637**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1761	0.1045	1.5408	5.1400e-003	0.5812	4.2700e-003	0.5855	0.1542	3.9300e-003	0.1581			512.6862	0.0119		512.9837
Total	**0.1761**	**0.1045**	**1.5408**	**5.1400e-003**	**0.5812**	**4.2700e-003**	**0.5855**	**0.1542**	**3.9300e-003**	**0.1581**			**512.6862**	**0.0119**		**512.9837**

3.7 All paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6485	5.9941	9.8270	0.0152		0.2777	0.2777		0.2566	0.2566			1,455.9447	0.4598		1,467.4395
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6485**	**5.9941**	**9.8270**	**0.0152**		**0.2777**	**0.2777**		**0.2566**	**0.2566**			**1,455.9447**	**0.4598**		**1,467.4395**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0508	0.0301	0.4445	1.4800e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456			147.8903	3.4300e-003		147.9761
Total	**0.0508**	**0.0301**	**0.4445**	**1.4800e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1300e-003**	**0.0456**			**147.8903**	**3.4300e-003**		**147.9761**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3185	5.8122	10.9899	0.0152		0.3097	0.3097		0.3097	0.3097			1,455.9447	0.4598		1,467.4395
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3185**	**5.8122**	**10.9899**	**0.0152**		**0.3097**	**0.3097**		**0.3097**	**0.3097**			**1,455.9447**	**0.4598**		**1,467.4395**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0508	0.0301	0.4445	1.4800e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1300e-003	0.0456			147.8903	3.4300e-003		147.9761
Total	**0.0508**	**0.0301**	**0.4445**	**1.4800e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1300e-003**	**0.0456**			**147.8903**	**3.4300e-003**		**147.9761**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments Mid Rise	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments Mid Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0907	0.7747	0.3297	4.9500e-003		0.0626	0.0626		0.0626	0.0626			989.0333	0.0190	0.0181	994.9106
NaturalGas Unmitigated	0.1194	1.0200	0.4341	6.5100e-003		0.0825	0.0825		0.0825	0.0825			1,302.1394	0.0250	0.0239	1,309.8773

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	7338.02	0.0791	0.6763	0.2878	4.3200e-003		0.0547	0.0547		0.0547	0.0547			863.2968	0.0166	0.0158	868.4270
Apartments Mid Rise	3730.16	0.0402	0.3438	0.1463	2.1900e-003		0.0278	0.0278		0.0278	0.0278			438.8426	8.4100e-003	8.0500e-003	441.4504
Total		**0.1194**	**1.0200**	**0.4341**	**6.5100e-003**		**0.0825**	**0.0825**		**0.0825**	**0.0825**			**1,302.1394**	**0.0250**	**0.0239**	**1,309.8773**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	5.57356	0.0601	0.5136	0.2186	3.2800e-003		0.0415	0.0415		0.0415	0.0415			655.7127	0.0126	0.0120	659.6092
Apartments Mid Rise	2.83323	0.0306	0.2611	0.1111	1.6700e-003		0.0211	0.0211		0.0211	0.0211			333.3206	6.3900e-003	6.1100e-003	335.3014
Total		**0.0907**	**0.7747**	**0.3297**	**4.9500e-003**		**0.0626**	**0.0626**		**0.0626**	**0.0626**			**989.0333**	**0.0190**	**0.0181**	**994.9106**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634
Unmitigated	8.2962	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515	0.0000	55.0634

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1676					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.8959	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515		55.0634
Total	**8.2962**	**0.3437**	**29.8372**	**1.5800e-003**		**0.1656**	**0.1656**		**0.1656**	**0.1656**			**53.7759**	**0.0515**	**0.0000**	**55.0634**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2327					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.1676					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.8959	0.3437	29.8372	1.5800e-003		0.1656	0.1656		0.1656	0.1656			53.7759	0.0515		55.0634
Total	**8.2962**	**0.3437**	**29.8372**	**1.5800e-003**		**0.1656**	**0.1656**		**0.1656**	**0.1656**			**53.7759**	**0.0515**	**0.0000**	**55.0634**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	6	500	0.73	Diesel
Emergency Generator	1	0.5	6	400	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.7385	2.0640	1.8830	3.5500e-003		0.1086	0.1086		0.1086	0.1086			377.7814	0.0530		379.1055
Total	**0.7385**	**2.0640**	**1.8830**	**3.5500e-003**		**0.1086**	**0.1086**		**0.1086**	**0.1086**			**377.7814**	**0.0530**		**379.1055**

11.0 Vegetation

UCLA LRDP Amendment & Student Housing - L15,UNEX,Warr

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	353.00	Dwelling Unit	1.70	353,000.00	1800
Apartments High Rise	650.00	Dwelling Unit	3.90	650,000.00	2350
Apartments High Rise	350.00	Dwelling Unit	1.00	350,000.00	1350

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1028.4	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - OpYear 2025

CO2 intensity for 33% renew in 2025

Land Use - L15-353 du;War 650 du; UNEX 350 du; all data from PD

Construction Phase - Const schedule per PD. One month assumed for all paving

Off-road Equipment - 3 sites grading

Off-road Equipment -

Off-road Equipment - 2 sites

Off-road Equipment - L15-UNEX 2 sites double default; no gen-site power; add drill rigs

Off-road Equipment - Concurrent utilities

Off-road Equipment - x

Off-road Equipment - War no gen; add drill rig

Off-road Equipment - 3 sites concurrent

Off-road Equipment - x

Off-road Equipment - Const equip per UCLA

Trips and VMT - Haul Truck trips per pD; Worker-vendor per appx A

Demolition -

Grading -

Architectural Coating - No exterior coating. Coating VOC calculated manually.

Vehicle Trips - No mobile emissions

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No woodstoves or fireplaces

Area Coating - No exterior paint

Reactivity adjusted VOC=25 g/L per UCLA rpts

Energy Use - Energy is default

Water And Wastewater - Water data from WSA; no change in landscape H2O

Construction Off-road Equipment Mitigation - All diesel const Tier3

Area Mitigation - Reactivity adjusted VOC

Energy Mitigation - 20% better than 2016 code = 42.4% better than 2013 baseline

Waste Mitigation -

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Emergency generators 0.5 hours/day, once/month

Stationary Sources - Process Boilers -

Solid Waste - All solid waste diverted from landfill by 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	913,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	913,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,739,825.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,739,825.00	0.00

tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblAreaCoating	Area_EF_Residential_Interior	50	25
tblAreaCoating	Area_Residential_Exterior	913275	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblFireplaces	NumberGas	1,150.05	0.00
tblFireplaces	NumberNoFireplace	135.30	1,353.00
tblFireplaces	NumberWood	67.65	0.00
tblGrading	AcresOfGrading	22.00	64.50
tblGrading	MaterialExported	0.00	43,000.00
tblGrading	MaterialImported	0.00	1,300.00
tblLandUse	LotAcreage	5.65	1.00
tblLandUse	LotAcreage	5.69	1.70
tblLandUse	LotAcreage	10.48	3.90
tblLandUse	Population	1,001.00	1,350.00
tblLandUse	Population	1,010.00	1,800.00
tblLandUse	Population	1,859.00	2,350.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00

tblOffRoadEquipment	PhaseName		L15-UNEX Building Construction
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1028.4
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	622.38	0.00
tblTripsAndVMT	HaulingTripNumber	875.00	1,312.00
tblTripsAndVMT	HaulingTripNumber	1,568.00	6,936.00
tblTripsAndVMT	HaulingTripNumber	5,538.00	4,280.00
tblTripsAndVMT	VendorTripNumber	145.00	75.00
tblTripsAndVMT	VendorTripNumber	145.00	69.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	33.00	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	45.00
tblTripsAndVMT	WorkerTripNumber	974.00	506.00
tblTripsAndVMT	WorkerTripNumber	974.00	468.00
tblVehicleTrips	ST_TR	4.98	0.00
tblVehicleTrips	SU_TR	3.65	0.00
tblVehicleTrips	WD_TR	4.20	0.00
tblWater	IndoorWaterUseRate	88,153,396.67	120,693,090.00
tblWater	OutdoorWaterUseRate	55,574,967.46	0.00
tblWoodstoves	NumberCatalytic	67.65	0.00
tblWoodstoves	NumberNoncatalytic	67.65	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.4488	5.5529	2.8222	9.0000e-003	0.6163	0.1938	0.8101	0.1661	0.1802	0.3463			845.2805	0.1308	0.0000	848.5511
2019	1.6067	11.5775	12.6645	0.0318	1.6635	0.5083	2.1718	0.4763	0.4716	0.9479			2,879.0670	0.3978	0.0000	2,889.0119
2020	1.4291	9.9034	11.6862	0.0305	1.5170	0.4182	1.9352	0.4057	0.3878	0.7935			2,743.7356	0.3722	0.0000	2,753.0405
2021	0.9134	5.7436	7.8519	0.0210	1.1491	0.2321	1.3813	0.3070	0.2169	0.5239			1,894.7043	0.2244	0.0000	1,900.3151
2022	0.0140	0.0456	0.1221	3.0000e-004	0.0224	2.4700e-003	0.0249	5.9600e-003	2.4500e-003	8.4100e-003			26.6854	1.0000e-003	0.0000	26.7105
Maximum	**1.6067**	**11.5775**	**12.6645**	**0.0318**	**1.6635**	**0.5083**	**2.1718**	**0.4763**	**0.4716**	**0.9479**			**2,879.0670**	**0.3978**	**0.0000**	**2,889.0119**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.1850	3.6831	3.1049	9.0000e-003	0.3778	0.0968	0.4745	0.1018	0.0964	0.1982			845.2800	0.1308	0.0000	848.5507
2019	1.0069	9.1886	13.7505	0.0318	1.5704	0.3729	1.9434	0.4340	0.3714	0.8054			2,879.0657	0.3978	0.0000	2,889.0106
2020	0.9510	8.4842	12.9782	0.0305	1.5170	0.3528	1.8698	0.4057	0.3514	0.7571			2,743.7344	0.3722	0.0000	2,753.0393
2021	0.6426	5.3057	8.6538	0.0210	1.1491	0.2256	1.3747	0.3070	0.2248	0.5318			1,894.7035	0.2244	0.0000	1,900.3144
2022	9.9300e-003	0.0442	0.1227	3.0000e-004	0.0224	2.8400e-003	0.0253	5.9600e-003	2.8300e-003	8.7900e-003			26.6854	1.0000e-003	0.0000	26.7105
Maximum	**1.0069**	**9.1886**	**13.7505**	**0.0318**	**1.5704**	**0.3729**	**1.9434**	**0.4340**	**0.3714**	**0.8054**			**2,879.0657**	**0.3978**	**0.0000**	**2,889.0106**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**36.64**	**18.64**	**-9.85**	**0.00**	**6.67**	**22.44**	**10.05**	**7.83**	**16.86**	**12.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**8-1-2018**	**10-31-2018**	1.1404	0.6436
2	**11-1-2018**	**1-31-2019**	2.8250	2.1052
3	**2-1-2019**	**4-30-2019**	1.8783	1.4481
4	**5-1-2019**	**7-31-2019**	1.9308	1.4861
5	**8-1-2019**	**10-31-2019**	1.9363	1.4916
6	**11-1-2019**	**1-31-2020**	1.8909	1.4891
7	**2-1-2020**	**4-30-2020**	1.7368	1.4264
8	**5-1-2020**	**7-31-2020**	1.7656	1.4484
9	**8-1-2020**	**10-31-2020**	1.7705	1.4533
10	**11-1-2020**	**1-31-2021**	1.7221	1.4507

11	**2-1-2021**	**4-30-2021**	1.9815	1.7389
12	**5-1-2021**	**7-31-2021**	0.0929	0.0783
13	**8-1-2021**	**10-31-2021**	0.0689	0.0592
14	**11-1-2021**	**1-31-2022**	0.1992	0.1742
		Highest	2.8250	2.1052

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.4663	0.1606	13.9398	7.4000e-004		0.0774	0.0774		0.0774	0.0774			22.7920	0.0218	0.0000	23.3377
Energy	0.0814	0.6958	0.2961	4.4400e-003		0.0563	0.0563		0.0563	0.0563			3,464.4611	0.0904	0.0303	3,475.7462
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Stationary	0.0131	0.0530	0.0333	6.0000e-005		1.9200e-003	1.9200e-003		1.9200e-003	1.9200e-003			6.0547	8.5000e-004	0.0000	6.0759
Waste						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000			771.3757	3.9535	0.0971	899.1595
Total	**5.5608**	**0.9093**	**14.2692**	**5.2400e-003**	**0.0000**	**0.1355**	**0.1355**	**0.0000**	**0.1355**	**0.1355**			**4,264.6836**	**4.0666**	**0.1274**	**4,404.3193**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.4663	0.1606	13.9398	7.4000e-004		0.0774	0.0774		0.0774	0.0774			22.7920	0.0218	0.0000	23.3377
Energy	0.0618	0.5285	0.2249	3.3700e-003		0.0427	0.0427		0.0427	0.0427			3,218.7864	0.0852	0.0264	3,228.7932
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Stationary	0.0131	0.0530	0.0333	6.0000e-005		1.9200e-003	1.9200e-003		1.9200e-003	1.9200e-003			6.0547	8.5000e-004	0.0000	6.0759
Waste						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000			771.3757	3.9535	0.0971	899.1595
Total	**5.5412**	**0.7420**	**14.1980**	**4.1700e-003**	**0.0000**	**0.1220**	**0.1220**	**0.0000**	**0.1220**	**0.1220**			**4,019.0089**	**4.0614**	**0.1236**	**4,157.3663**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.35**	**18.40**	**0.50**	**20.42**	**0.00**	**9.98**	**9.98**	**0.00**	**9.98**	**9.98**	**0.00**	**0.00**	**5.76**	**0.13**	**3.02**	**5.61**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	UNEX Demolition	Demolition	8/1/2018	9/30/2018	5	43	
2	Warr Abate-Demo/L15 demo-grad/UN grad	Demolition	10/1/2018	11/30/2018	5	45	
3	Warren Grading	Grading	12/1/2018	1/31/2019	5	44	
4	Sewer - utilities	Trenching	12/1/2018	5/31/2019	5	130	
5	L15-UNEX Building Construction	Building Construction	12/1/2018	4/30/2021	5	630	
6	War Building	Building Construction	2/1/2019	12/31/2021	5	761	
7	L15-UNEX Architectural Coating	Architectural Coating	2/1/2021	5/31/2021	5	86	
8	All paving	Paving	3/1/2021	3/31/2021	5	23	
9	Warren Architectural Coating	Architectural Coating	10/1/2021	1/31/2022	5	87	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
UNEX Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
UNEX Demolition	Excavators	3	8.00	158	0.38
UNEX Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Warr Abate-Demo/L15 demo-grad/UN grad	Concrete/Industrial Saws	2	8.00	81	0.73
Warr Abate-Demo/L15 demo-grad/UN grad	Excavators	5	8.00	158	0.38
Warr Abate-Demo/L15 demo-grad/UN grad	Graders	2	8.00	187	0.41
Warr Abate-Demo/L15 demo-grad/UN grad	Rubber Tired Dozers	4	8.00	247	0.40
Warren Grading	Excavators	2	8.00	158	0.38

Warren Grading	Graders	1	8.00	187	0.41
Warren Grading	Rubber Tired Dozers	1	8.00	247	0.40
Warren Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Sewer - utilities	Signal Boards	3	16.00	6	0.82
Sewer - utilities	Tractors/Loaders/Backhoes	3	7.00	97	0.37
L15-UNEX Building Construction	Bore/Drill Rigs	2	7.00	221	0.50
L15-UNEX Building Construction	Cranes	2	7.00	231	0.29
L15-UNEX Building Construction	Forklifts	6	8.00	89	0.20
L15-UNEX Building Construction	Generator Sets	0	8.00	84	0.74
L15-UNEX Building Construction	Tractors/Loaders/Backhoes	6	7.00	97	0.37
L15-UNEX Building Construction	Welders	2	8.00	46	0.45
War Building	Bore/Drill Rigs	1	7.00	221	0.50
War Building	Cranes	1	7.00	231	0.29
War Building	Forklifts	3	8.00	89	0.20
War Building	Generator Sets	0	8.00	84	0.74
War Building	Tractors/Loaders/Backhoes	3	7.00	97	0.37
War Building	Welders	1	8.00	46	0.45
L15-UNEX Architectural Coating	Air Compressors	4	6.00	78	0.48
All paving	Pavers	2	8.00	130	0.42
All paving	Paving Equipment	2	8.00	132	0.36
All paving	Rollers	2	8.00	80	0.38
Warren Architectural Coating	Air Compressors	2	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
UNEX Demolition	6	15.00	0.00	1,312.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warr Abate-Demo/L15 demo-grad/UN grad	13	25.00	0.00	6,936.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warren Grading	6	45.00	0.00	4,280.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Sewer - utilities	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Building Construction	18	506.00	75.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
War Building	9	468.00	69.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Architectural Coating	4	195.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
All paving	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warren Architectural Coating	2	195.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 UNEX Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0947	0.0000	0.0947	0.0143	0.0000	0.0143			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0800	0.8239	0.4795	8.3000e-004		0.0417	0.0417		0.0388	0.0388			75.5168	0.0208	0.0000	76.0369
Total	**0.0800**	**0.8239**	**0.4795**	**8.3000e-004**	**0.0947**	**0.0417**	**0.1364**	**0.0143**	**0.0388**	**0.0531**			**75.5168**	**0.0208**	**0.0000**	**76.0369**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.5800e-003	0.2191	0.0452	5.3000e-004	0.0113	8.1000e-004	0.0121	3.1000e-003	7.8000e-004	3.8700e-003			51.7428	3.6500e-003	0.0000	51.8340
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.5300e-003	0.0164	4.0000e-005	3.5300e-003	3.0000e-005	3.5700e-003	9.4000e-004	3.0000e-005	9.7000e-004			3.5114	1.3000e-004	0.0000	3.5147
Total	**8.3700e-003**	**0.2206**	**0.0616**	**5.7000e-004**	**0.0148**	**8.4000e-004**	**0.0157**	**4.0400e-003**	**8.1000e-004**	**4.8400e-003**			**55.2541**	**3.7800e-003**	**0.0000**	**55.3487**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0426	0.0000	0.0426	6.4500e-003	0.0000	6.4500e-003			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0199	0.3937	0.5305	8.3000e-004		0.0186	0.0186		0.0186	0.0186			75.5167	0.0208	0.0000	76.0368
Total	**0.0199**	**0.3937**	**0.5305**	**8.3000e-004**	**0.0426**	**0.0186**	**0.0612**	**6.4500e-003**	**0.0186**	**0.0250**			**75.5167**	**0.0208**	**0.0000**	**76.0368**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.5800e-003	0.2191	0.0452	5.3000e-004	0.0113	8.1000e-004	0.0121	3.1000e-003	7.8000e-004	3.8700e-003			51.7428	3.6500e-003	0.0000	51.8340
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.5300e-003	0.0164	4.0000e-005	3.5300e-003	3.0000e-005	3.5700e-003	9.4000e-004	3.0000e-005	9.7000e-004			3.5114	1.3000e-004	0.0000	3.5147
Total	**8.3700e-003**	**0.2206**	**0.0616**	**5.7000e-004**	**0.0148**	**8.4000e-004**	**0.0157**	**4.0400e-003**	**8.1000e-004**	**4.8400e-003**			**55.2541**	**3.7800e-003**	**0.0000**	**55.3487**

3.3 Warr Abate-Demo/L15 demo-grad/UN grad - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1697	0.0000	0.1697	0.0257	0.0000	0.0257			0.0000	0.0000	0.0000	0.0000
Off-Road	0.1842	1.9756	1.0161	1.9300e-003		0.0943	0.0943		0.0877	0.0877			174.8017	0.0488	0.0000	176.0207
Total	**0.1842**	**1.9756**	**1.0161**	**1.9300e-003**	**0.1697**	**0.0943**	**0.2640**	**0.0257**	**0.0877**	**0.1134**			**174.8017**	**0.0488**	**0.0000**	**176.0207**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0348	1.1582	0.2389	2.7900e-003	0.0596	4.3000e-003	0.0639	0.0164	4.1100e-003	0.0205			273.5426	0.0193	0.0000	274.0249
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.1200e-003	2.6700e-003	0.0287	7.0000e-005	6.1600e-003	6.0000e-005	6.2200e-003	1.6400e-003	5.0000e-005	1.6900e-003			6.1245	2.3000e-004	0.0000	6.1302
Total	**0.0379**	**1.1609**	**0.2676**	**2.8600e-003**	**0.0658**	**4.3600e-003**	**0.0701**	**0.0180**	**4.1600e-003**	**0.0222**			**279.6670**	**0.0195**	**0.0000**	**280.1551**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0764	0.0000	0.0764	0.0116	0.0000	0.0116			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0461	0.9100	1.1804	1.9300e-003		0.0415	0.0415		0.0415	0.0415			174.8015	0.0488	0.0000	176.0205
Total	**0.0461**	**0.9100**	**1.1804**	**1.9300e-003**	**0.0764**	**0.0415**	**0.1179**	**0.0116**	**0.0415**	**0.0531**			**174.8015**	**0.0488**	**0.0000**	**176.0205**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0348	1.1582	0.2389	2.7900e-003	0.0596	4.3000e-003	0.0639	0.0164	4.1100e-003	0.0205			273.5426	0.0193	0.0000	274.0249
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.1200e-003	2.6700e-003	0.0287	7.0000e-005	6.1600e-003	6.0000e-005	6.2200e-003	1.6400e-003	5.0000e-005	1.6900e-003			6.1245	2.3000e-004	0.0000	6.1302
Total	**0.0379**	**1.1609**	**0.2676**	**2.8600e-003**	**0.0658**	**4.3600e-003**	**0.0701**	**0.0180**	**4.1600e-003**	**0.0222**			**279.6670**	**0.0195**	**0.0000**	**280.1551**

3.4 Warren Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1692	0.0000	0.1692	0.0769	0.0000	0.0769			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0294	0.3270	0.1839	3.3000e-004		0.0159	0.0159		0.0146	0.0146			30.4322	9.4700e-003	0.0000	30.6690
Total	**0.0294**	**0.3270**	**0.1839**	**3.3000e-004**	**0.1692**	**0.0159**	**0.1851**	**0.0769**	**0.0146**	**0.0915**			**30.4322**	**9.4700e-003**	**0.0000**	**30.6690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0103	0.3411	0.0704	8.2000e-004	0.0320	1.2700e-003	0.0333	8.3700e-003	1.2100e-003	9.5800e-003			80.5613	5.6800e-003	0.0000	80.7033
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	2.6200e-003	2.2400e-003	0.0241	6.0000e-005	5.1800e-003	5.0000e-005	5.2200e-003	1.3800e-003	4.0000e-005	1.4200e-003			5.1446	1.9000e-004	0.0000	5.1494
Total	**0.0129**	**0.3434**	**0.0945**	**8.8000e-004**	**0.0372**	**1.3200e-003**	**0.0385**	**9.7500e-003**	**1.2500e-003**	**0.0110**			**85.7058**	**5.8700e-003**	**0.0000**	**85.8527**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0761	0.0000	0.0761	0.0346	0.0000	0.0346			0.0000	0.0000	0.0000	0.0000
Off-Road	8.1600e-003	0.1634	0.2160	3.3000e-004		7.9000e-003	7.9000e-003		7.9000e-003	7.9000e-003			30.4321	9.4700e-003	0.0000	30.6690
Total	**8.1600e-003**	**0.1634**	**0.2160**	**3.3000e-004**	**0.0761**	**7.9000e-003**	**0.0840**	**0.0346**	**7.9000e-003**	**0.0425**			**30.4321**	**9.4700e-003**	**0.0000**	**30.6690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0103	0.3411	0.0704	8.2000e-004	0.0320	1.2700e-003	0.0333	8.3700e-003	1.2100e-003	9.5800e-003			80.5613	5.6800e-003	0.0000	80.7033
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	2.6200e-003	2.2400e-003	0.0241	6.0000e-005	5.1800e-003	5.0000e-005	5.2200e-003	1.3800e-003	4.0000e-005	1.4200e-003			5.1446	1.9000e-004	0.0000	5.1494
Total	**0.0129**	**0.3434**	**0.0945**	**8.8000e-004**	**0.0372**	**1.3200e-003**	**0.0385**	**9.7500e-003**	**1.2500e-003**	**0.0110**			**85.7058**	**5.8700e-003**	**0.0000**	**85.8527**

3.4 Warren Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1692	0.0000	0.1692	0.0769	0.0000	0.0769			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0300	0.3300	0.1984	3.6000e-004		0.0158	0.0158		0.0145	0.0145			32.7625	0.0104	0.0000	33.0217
Total	**0.0300**	**0.3300**	**0.1984**	**3.6000e-004**	**0.1692**	**0.0158**	**0.1850**	**0.0769**	**0.0145**	**0.0914**			**32.7625**	**0.0104**	**0.0000**	**33.0217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0106	0.3540	0.0752	8.9000e-004	0.0324	1.2700e-003	0.0337	8.5200e-003	1.2100e-003	9.7300e-003			87.1066	6.1400e-003	0.0000	87.2602
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	2.5900e-003	2.1600e-003	0.0235	6.0000e-005	5.6700e-003	5.0000e-005	5.7200e-003	1.5100e-003	5.0000e-005	1.5500e-003			5.4511	1.9000e-004	0.0000	5.4558
Total	**0.0132**	**0.3562**	**0.0987**	**9.5000e-004**	**0.0381**	**1.3200e-003**	**0.0394**	**0.0100**	**1.2600e-003**	**0.0113**			**92.5577**	**6.3300e-003**	**0.0000**	**92.7160**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0761	0.0000	0.0761	0.0346	0.0000	0.0346			0.0000	0.0000	0.0000	0.0000
Off-Road	8.9400e-003	0.1790	0.2365	3.6000e-004		8.6500e-003	8.6500e-003		8.6500e-003	8.6500e-003			32.7625	0.0104	0.0000	33.0216
Total	**8.9400e-003**	**0.1790**	**0.2365**	**3.6000e-004**	**0.0761**	**8.6500e-003**	**0.0848**	**0.0346**	**8.6500e-003**	**0.0433**			**32.7625**	**0.0104**	**0.0000**	**33.0216**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0106	0.3540	0.0752	8.9000e-004	0.0324	1.2700e-003	0.0337	8.5200e-003	1.2100e-003	9.7300e-003			87.1066	6.1400e-003	0.0000	87.2602
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	2.5900e-003	2.1600e-003	0.0235	6.0000e-005	5.6700e-003	5.0000e-005	5.7200e-003	1.5100e-003	5.0000e-005	1.5500e-003			5.4511	1.9000e-004	0.0000	5.4558
Total	**0.0132**	**0.3562**	**0.0987**	**9.5000e-004**	**0.0381**	**1.3200e-003**	**0.0394**	**0.0100**	**1.2600e-003**	**0.0113**			**92.5577**	**6.3300e-003**	**0.0000**	**92.7160**

3.5 Sewer - utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.0951	0.0834	1.3000e-004		6.0200e-003	6.0200e-003		5.6000e-003	5.6000e-003			10.6391	2.7300e-003	0.0000	10.7073
Total	**0.0110**	**0.0951**	**0.0834**	**1.3000e-004**		**6.0200e-003**	**6.0200e-003**		**5.6000e-003**	**5.6000e-003**			**10.6391**	**2.7300e-003**	**0.0000**	**10.7073**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	7.5000e-004	8.0300e-003	2.0000e-005	1.7300e-003	2.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004			1.7149	6.0000e-005	0.0000	1.7165
Total	**8.7000e-004**	**7.5000e-004**	**8.0300e-003**	**2.0000e-005**	**1.7300e-003**	**2.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**			**1.7149**	**6.0000e-005**	**0.0000**	**1.7165**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0900e-003	0.0478	0.0646	1.3000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003			10.6391	2.7300e-003	0.0000	10.7073
Total	**2.0900e-003**	**0.0478**	**0.0646**	**1.3000e-004**		**3.3500e-003**	**3.3500e-003**		**3.3500e-003**	**3.3500e-003**			**10.6391**	**2.7300e-003**	**0.0000**	**10.7073**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	7.5000e-004	8.0300e-003	2.0000e-005	1.7300e-003	2.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004			1.7149	6.0000e-005	0.0000	1.7165
Total	**8.7000e-004**	**7.5000e-004**	**8.0300e-003**	**2.0000e-005**	**1.7300e-003**	**2.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**			**1.7149**	**6.0000e-005**	**0.0000**	**1.7165**

3.5 Sewer - utilities - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0521	0.4519	0.4279	6.7000e-004		0.0269	0.0269		0.0251	0.0251			54.5429	0.0142	0.0000	54.8966
Total	**0.0521**	**0.4519**	**0.4279**	**6.7000e-004**		**0.0269**	**0.0269**		**0.0251**	**0.0251**			**54.5429**	**0.0142**	**0.0000**	**54.8966**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.0900e-003	3.4100e-003	0.0371	1.0000e-004	8.9600e-003	8.0000e-005	9.0400e-003	2.3800e-003	7.0000e-005	2.4500e-003			8.6112	3.0000e-004	0.0000	8.6186
Total	**4.0900e-003**	**3.4100e-003**	**0.0371**	**1.0000e-004**	**8.9600e-003**	**8.0000e-005**	**9.0400e-003**	**2.3800e-003**	**7.0000e-005**	**2.4500e-003**			**8.6112**	**3.0000e-004**	**0.0000**	**8.6186**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.2481	0.3351	6.7000e-004		0.0174	0.0174		0.0174	0.0174			54.5428	0.0142	0.0000	54.8965
Total	**0.0109**	**0.2481**	**0.3351**	**6.7000e-004**		**0.0174**	**0.0174**		**0.0174**	**0.0174**			**54.5428**	**0.0142**	**0.0000**	**54.8965**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.0900e-003	3.4100e-003	0.0371	1.0000e-004	8.9600e-003	8.0000e-005	9.0400e-003	2.3800e-003	7.0000e-005	2.4500e-003			8.6112	3.0000e-004	0.0000	8.6186
Total	**4.0900e-003**	**3.4100e-003**	**0.0371**	**1.0000e-004**	**8.9600e-003**	**8.0000e-005**	**9.0400e-003**	**2.3800e-003**	**7.0000e-005**	**2.4500e-003**			**8.6112**	**3.0000e-004**	**0.0000**	**8.6186**

3.6 L15-UNEX Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0512	0.4819	0.3289	6.0000e-004		0.0282	0.0282		0.0261	0.0261			53.8037	0.0163	0.0000	54.2106
Total	**0.0512**	**0.4819**	**0.3289**	**6.0000e-004**		**0.0282**	**0.0282**		**0.0261**	**0.0261**			**53.8037**	**0.0163**	**0.0000**	**54.2106**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	3.6900e-003	0.0986	0.0277	2.1000e-004	4.9600e-003	6.8000e-004	5.6400e-003	1.4300e-003	6.6000e-004	2.0900e-003			19.8975	1.3600e-003	0.0000	19.9316
Worker	0.0294	0.0252	0.2709	6.4000e-004	0.0582	5.3000e-004	0.0588	0.0155	4.9000e-004	0.0160			57.8477	2.1800e-003	0.0000	57.9020
Total	**0.0331**	**0.1238**	**0.2986**	**8.5000e-004**	**0.0632**	**1.2100e-003**	**0.0644**	**0.0169**	**1.1500e-003**	**0.0180**			**77.7451**	**3.5400e-003**	**0.0000**	**77.8336**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0157	0.3188	0.3833	6.0000e-004		0.0177	0.0177		0.0177	0.0177			53.8036	0.0163	0.0000	54.2106
Total	**0.0157**	**0.3188**	**0.3833**	**6.0000e-004**		**0.0177**	**0.0177**		**0.0177**	**0.0177**			**53.8036**	**0.0163**	**0.0000**	**54.2106**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	3.6900e-003	0.0986	0.0277	2.1000e-004	4.9600e-003	6.8000e-004	5.6400e-003	1.4300e-003	6.6000e-004	2.0900e-003			19.8975	1.3600e-003	0.0000	19.9316
Worker	0.0294	0.0252	0.2709	6.4000e-004	0.0582	5.3000e-004	0.0588	0.0155	4.9000e-004	0.0160			57.8477	2.1800e-003	0.0000	57.9020
Total	**0.0331**	**0.1238**	**0.2986**	**8.5000e-004**	**0.0632**	**1.2100e-003**	**0.0644**	**0.0169**	**1.1500e-003**	**0.0180**			**77.7451**	**3.5400e-003**	**0.0000**	**77.8336**

3.6 L15-UNEX Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.5642	5.3587	3.9801	7.4500e-003		0.3016	0.3016		0.2796	0.2796			658.2110	0.2009	0.0000	663.2340
Total	**0.5642**	**5.3587**	**3.9801**	**7.4500e-003**		**0.3016**	**0.3016**		**0.2796**	**0.2796**			**658.2110**	**0.2009**	**0.0000**	**663.2340**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0414	1.1561	0.3162	2.5300e-003	0.0617	7.2700e-003	0.0689	0.0178	6.9600e-003	0.0248			244.7506	0.0163	0.0000	245.1591
Worker	0.3308	0.2757	2.9979	7.7000e-003	0.7236	6.3600e-003	0.7300	0.1922	5.8600e-003	0.1981			695.5635	0.0239	0.0000	696.1614
Total	**0.3722**	**1.4318**	**3.3140**	**0.0102**	**0.7852**	**0.0136**	**0.7989**	**0.2100**	**0.0128**	**0.2228**			**940.3141**	**0.0403**	**0.0000**	**941.3205**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1950	3.9616	4.7635	7.4500e-003		0.2201	0.2201		0.2201	0.2201			658.2102	0.2009	0.0000	663.2332
Total	**0.1950**	**3.9616**	**4.7635**	**7.4500e-003**		**0.2201**	**0.2201**		**0.2201**	**0.2201**			**658.2102**	**0.2009**	**0.0000**	**663.2332**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0414	1.1561	0.3162	2.5300e-003	0.0617	7.2700e-003	0.0689	0.0178	6.9600e-003	0.0248			244.7506	0.0163	0.0000	245.1591
Worker	0.3308	0.2757	2.9979	7.7000e-003	0.7236	6.3600e-003	0.7300	0.1922	5.8600e-003	0.1981			695.5635	0.0239	0.0000	696.1614
Total	**0.3722**	**1.4318**	**3.3140**	**0.0102**	**0.7852**	**0.0136**	**0.7989**	**0.2100**	**0.0128**	**0.2228**			**940.3141**	**0.0403**	**0.0000**	**941.3205**

3.6 L15-UNEX Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.5145	4.9228	3.9205	7.4800e-003		0.2645	0.2645		0.2452	0.2452			647.9483	0.2009	0.0000	652.9707
Total	**0.5145**	**4.9228**	**3.9205**	**7.4800e-003**		**0.2645**	**0.2645**		**0.2452**	**0.2452**			**647.9483**	**0.2009**	**0.0000**	**652.9707**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0356	1.0647	0.2882	2.5200e-003	0.0619	4.9500e-003	0.0668	0.0179	4.7400e-003	0.0226			244.0787	0.0155	0.0000	244.4665
Worker	0.3060	0.2467	2.7285	7.4900e-003	0.7264	6.1900e-003	0.7326	0.1929	5.7100e-003	0.1986			677.0124	0.0213	0.0000	677.5458
Total	**0.3416**	**1.3114**	**3.0168**	**0.0100**	**0.7883**	**0.0111**	**0.7994**	**0.2108**	**0.0105**	**0.2212**			**921.0912**	**0.0369**	**0.0000**	**922.0123**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1957	3.9767	4.7818	7.4800e-003		0.2209	0.2209		0.2209	0.2209			647.9475	0.2009	0.0000	652.9700
Total	**0.1957**	**3.9767**	**4.7818**	**7.4800e-003**		**0.2209**	**0.2209**		**0.2209**	**0.2209**			**647.9475**	**0.2009**	**0.0000**	**652.9700**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0356	1.0647	0.2882	2.5200e-003	0.0619	4.9500e-003	0.0668	0.0179	4.7400e-003	0.0226			244.0787	0.0155	0.0000	244.4665
Worker	0.3060	0.2467	2.7285	7.4900e-003	0.7264	6.1900e-003	0.7326	0.1929	5.7100e-003	0.1986			677.0124	0.0213	0.0000	677.5458
Total	**0.3416**	**1.3114**	**3.0168**	**0.0100**	**0.7883**	**0.0111**	**0.7994**	**0.2108**	**0.0105**	**0.2212**			**921.0912**	**0.0369**	**0.0000**	**922.0123**

3.6 L15-UNEX Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1522	1.4543	1.2647	2.4600e-003		0.0749	0.0749		0.0694	0.0694			212.8628	0.0657	0.0000	214.5057
Total	**0.1522**	**1.4543**	**1.2647**	**2.4600e-003**		**0.0749**	**0.0749**		**0.0694**	**0.0694**			**212.8628**	**0.0657**	**0.0000**	**214.5057**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0100	0.3183	0.0863	8.2000e-004	0.0203	6.5000e-004	0.0210	5.8600e-003	6.2000e-004	6.4800e-003			79.4952	4.8800e-003	0.0000	79.6171
Worker	0.0936	0.0729	0.8228	2.3800e-003	0.2384	1.9700e-003	0.2404	0.0633	1.8100e-003	0.0651			215.1686	6.3300e-003	0.0000	215.3269
Total	**0.1036**	**0.3912**	**0.9091**	**3.2000e-003**	**0.2587**	**2.6200e-003**	**0.2614**	**0.0692**	**2.4300e-003**	**0.0716**			**294.6637**	**0.0112**	**0.0000**	**294.9439**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0642	1.3053	1.5696	2.4600e-003		0.0725	0.0725		0.0725	0.0725			212.8625	0.0657	0.0000	214.5054
Total	**0.0642**	**1.3053**	**1.5696**	**2.4600e-003**		**0.0725**	**0.0725**		**0.0725**	**0.0725**			**212.8625**	**0.0657**	**0.0000**	**214.5054**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0100	0.3183	0.0863	8.2000e-004	0.0203	6.5000e-004	0.0210	5.8600e-003	6.2000e-004	6.4800e-003			79.4952	4.8800e-003	0.0000	79.6171
Worker	0.0936	0.0729	0.8228	2.3800e-003	0.2384	1.9700e-003	0.2404	0.0633	1.8100e-003	0.0651			215.1686	6.3300e-003	0.0000	215.3269
Total	**0.1036**	**0.3912**	**0.9091**	**3.2000e-003**	**0.2587**	**2.6200e-003**	**0.2614**	**0.0692**	**2.4300e-003**	**0.0716**			**294.6637**	**0.0112**	**0.0000**	**294.9439**

3.7 War Building - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2572	2.4432	1.8147	3.4000e-003		0.1375	0.1375		0.1275	0.1275			300.1039	0.0916	0.0000	302.3940
Total	**0.2572**	**2.4432**	**1.8147**	**3.4000e-003**		**0.1375**	**0.1375**		**0.1275**	**0.1275**			**300.1039**	**0.0916**	**0.0000**	**302.3940**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0348	0.9699	0.2653	2.1200e-003	0.0517	6.1000e-003	0.0578	0.0149	5.8400e-003	0.0208			205.3280	0.0137	0.0000	205.6706
Worker	0.2790	0.2325	2.5284	6.5000e-003	0.6103	5.3700e-003	0.6156	0.1621	4.9500e-003	0.1670			586.6358	0.0202	0.0000	587.1401
Total	**0.3137**	**1.2024**	**2.7936**	**8.6200e-003**	**0.6620**	**0.0115**	**0.6735**	**0.1770**	**0.0108**	**0.1878**			**791.9638**	**0.0339**	**0.0000**	**792.8107**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0889	1.8062	2.1719	3.4000e-003		0.1003	0.1003		0.1003	0.1003			300.1035	0.0916	0.0000	302.3937
Total	**0.0889**	**1.8062**	**2.1719**	**3.4000e-003**		**0.1003**	**0.1003**		**0.1003**	**0.1003**			**300.1035**	**0.0916**	**0.0000**	**302.3937**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0348	0.9699	0.2653	2.1200e-003	0.0517	6.1000e-003	0.0578	0.0149	5.8400e-003	0.0208			205.3280	0.0137	0.0000	205.6706
Worker	0.2790	0.2325	2.5284	6.5000e-003	0.6103	5.3700e-003	0.6156	0.1621	4.9500e-003	0.1670			586.6358	0.0202	0.0000	587.1401
Total	**0.3137**	**1.2024**	**2.7936**	**8.6200e-003**	**0.6620**	**0.0115**	**0.6735**	**0.1770**	**0.0108**	**0.1878**			**791.9638**	**0.0339**	**0.0000**	**792.8107**

3.7 War Building - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2572	2.4614	1.9602	3.7400e-003		0.1323	0.1323		0.1226	0.1226			323.9741	0.1005	0.0000	326.4854
Total	**0.2572**	**2.4614**	**1.9602**	**3.7400e-003**		**0.1323**	**0.1323**		**0.1226**	**0.1226**			**323.9741**	**0.1005**	**0.0000**	**326.4854**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0328	0.9795	0.2652	2.3200e-003	0.0569	4.5600e-003	0.0615	0.0164	4.3600e-003	0.0208			224.5524	0.0143	0.0000	224.9092
Worker	0.2830	0.2282	2.5236	6.9300e-003	0.6718	5.7300e-003	0.6775	0.1784	5.2800e-003	0.1837			626.1696	0.0197	0.0000	626.6629
Total	**0.3158**	**1.2077**	**2.7888**	**9.2500e-003**	**0.7288**	**0.0103**	**0.7390**	**0.1949**	**9.6400e-003**	**0.2045**			**850.7220**	**0.0340**	**0.0000**	**851.5721**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0979	1.9884	2.3909	3.7400e-003		0.1105	0.1105		0.1105	0.1105			323.9737	0.1005	0.0000	326.4850
Total	**0.0979**	**1.9884**	**2.3909**	**3.7400e-003**		**0.1105**	**0.1105**		**0.1105**	**0.1105**			**323.9737**	**0.1005**	**0.0000**	**326.4850**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0328	0.9795	0.2652	2.3200e-003	0.0569	4.5600e-003	0.0615	0.0164	4.3600e-003	0.0208			224.5524	0.0143	0.0000	224.9092
Worker	0.2830	0.2282	2.5236	6.9300e-003	0.6718	5.7300e-003	0.6775	0.1784	5.2800e-003	0.1837			626.1696	0.0197	0.0000	626.6629
Total	**0.3158**	**1.2077**	**2.7888**	**9.2500e-003**	**0.7288**	**0.0103**	**0.7390**	**0.1949**	**9.6400e-003**	**0.2045**			**850.7220**	**0.0340**	**0.0000**	**851.5721**

3.7 War Building - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2309	2.2069	1.9190	3.7300e-003		0.1137	0.1137		0.1054	0.1054			323.0069	0.0997	0.0000	325.4999
Total	**0.2309**	**2.2069**	**1.9190**	**3.7300e-003**		**0.1137**	**0.1137**		**0.1054**	**0.1054**			**323.0069**	**0.0997**	**0.0000**	**325.4999**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0280	0.8887	0.2409	2.2900e-003	0.0567	1.8100e-003	0.0585	0.0164	1.7300e-003	0.0181			221.9578	0.0136	0.0000	222.2982
Worker	0.2628	0.2046	2.3096	6.6800e-003	0.6693	5.5200e-003	0.6748	0.1778	5.0800e-003	0.1828			603.9712	0.0178	0.0000	604.4155
Total	**0.2908**	**1.0932**	**2.5505**	**8.9700e-003**	**0.7260**	**7.3300e-003**	**0.7333**	**0.1941**	**6.8100e-003**	**0.2009**			**825.9290**	**0.0314**	**0.0000**	**826.7137**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0975	1.9808	2.3818	3.7300e-003		0.1100	0.1100		0.1100	0.1100			323.0065	0.0997	0.0000	325.4995
Total	**0.0975**	**1.9808**	**2.3818**	**3.7300e-003**		**0.1100**	**0.1100**		**0.1100**	**0.1100**			**323.0065**	**0.0997**	**0.0000**	**325.4995**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0280	0.8887	0.2409	2.2900e-003	0.0567	1.8100e-003	0.0585	0.0164	1.7300e-003	0.0181			221.9578	0.0136	0.0000	222.2982
Worker	0.2628	0.2046	2.3096	6.6800e-003	0.6693	5.5200e-003	0.6748	0.1778	5.0800e-003	0.1828			603.9712	0.0178	0.0000	604.4155
Total	**0.2908**	**1.0932**	**2.5505**	**8.9700e-003**	**0.7260**	**7.3300e-003**	**0.7333**	**0.1941**	**6.8100e-003**	**0.2009**			**825.9290**	**0.0314**	**0.0000**	**826.7137**

3.8 L15-UNEX Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0377	0.2626	0.3126	5.1000e-004		0.0162	0.0162		0.0162	0.0162			43.9160	3.0100e-003	0.0000	43.9913
Total	**0.0377**	**0.2626**	**0.3126**	**5.1000e-004**		**0.0162**	**0.0162**		**0.0162**	**0.0162**			**43.9160**	**3.0100e-003**	**0.0000**	**43.9913**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	0.0361	0.0281	0.3171	9.2000e-004	0.0919	7.6000e-004	0.0926	0.0244	7.0000e-004	0.0251			82.9207	2.4400e-003	0.0000	82.9817
Total	**0.0361**	**0.0281**	**0.3171**	**9.2000e-004**	**0.0919**	**7.6000e-004**	**0.0926**	**0.0244**	**7.0000e-004**	**0.0251**			**82.9207**	**2.4400e-003**	**0.0000**	**82.9817**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.2334	0.3152	5.1000e-004		0.0164	0.0164		0.0164	0.0164			43.9159	3.0100e-003	0.0000	43.9913
Total	**0.0102**	**0.2334**	**0.3152**	**5.1000e-004**		**0.0164**	**0.0164**		**0.0164**	**0.0164**			**43.9159**	**3.0100e-003**	**0.0000**	**43.9913**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	0.0361	0.0281	0.3171	9.2000e-004	0.0919	7.6000e-004	0.0926	0.0244	7.0000e-004	0.0251			82.9207	2.4400e-003	0.0000	82.9817
Total	**0.0361**	**0.0281**	**0.3171**	**9.2000e-004**	**0.0919**	**7.6000e-004**	**0.0926**	**0.0244**	**7.0000e-004**	**0.0251**			**82.9207**	**2.4400e-003**	**0.0000**	**82.9817**

3.9 All paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0144	0.1486	0.1685	2.6000e-004		7.7900e-003	7.7900e-003		7.1700e-003	7.1700e-003			23.0270	7.4500e-003	0.0000	23.2132
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0144**	**0.1486**	**0.1685**	**2.6000e-004**		**7.7900e-003**	**7.7900e-003**		**7.1700e-003**	**7.1700e-003**			**23.0270**	**7.4500e-003**	**0.0000**	**23.2132**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.2700e-003	6.2000e-004	1.0000e-005	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	5.0000e-005			0.5669	3.0000e-005	0.0000	0.5678
Worker	7.4000e-004	5.8000e-004	6.5200e-003	2.0000e-005	1.8900e-003	2.0000e-005	1.9100e-003	5.0000e-004	1.0000e-005	5.2000e-004			1.7059	5.0000e-005	0.0000	1.7071
Total	**8.1000e-004**	**2.8500e-003**	**7.1400e-003**	**3.0000e-005**	**2.0300e-003**	**2.0000e-005**	**2.0600e-003**	**5.4000e-004**	**1.0000e-005**	**5.7000e-004**			**2.2728**	**8.0000e-005**	**0.0000**	**2.2750**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.4500e-003	0.1299	0.1989	2.6000e-004		7.0100e-003	7.0100e-003		7.0100e-003	7.0100e-003			23.0270	7.4500e-003	0.0000	23.2132
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**6.4500e-003**	**0.1299**	**0.1989**	**2.6000e-004**		**7.0100e-003**	**7.0100e-003**		**7.0100e-003**	**7.0100e-003**			**23.0270**	**7.4500e-003**	**0.0000**	**23.2132**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.2700e-003	6.2000e-004	1.0000e-005	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	5.0000e-005			0.5669	3.0000e-005	0.0000	0.5678
Worker	7.4000e-004	5.8000e-004	6.5200e-003	2.0000e-005	1.8900e-003	2.0000e-005	1.9100e-003	5.0000e-004	1.0000e-005	5.2000e-004			1.7059	5.0000e-005	0.0000	1.7071
Total	**8.1000e-004**	**2.8500e-003**	**7.1400e-003**	**3.0000e-005**	**2.0300e-003**	**2.0000e-005**	**2.0600e-003**	**5.4000e-004**	**1.0000e-005**	**5.7000e-004**			**2.2728**	**8.0000e-005**	**0.0000**	**2.2750**

3.10 Warren Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0193	0.1344	0.1599	2.6000e-004		8.2800e-003	8.2800e-003		8.2800e-003	8.2800e-003			22.4686	1.5400e-003	0.0000	22.5072
Total	**0.0193**	**0.1344**	**0.1599**	**2.6000e-004**		**8.2800e-003**	**8.2800e-003**		**8.2800e-003**	**8.2800e-003**			**22.4686**	**1.5400e-003**	**0.0000**	**22.5072**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	0.0277	0.0216	0.2433	7.0000e-004	0.0705	5.8000e-004	0.0711	0.0187	5.4000e-004	0.0193			63.6368	1.8700e-003	0.0000	63.6836
Total	**0.0277**	**0.0216**	**0.2433**	**7.0000e-004**	**0.0705**	**5.8000e-004**	**0.0711**	**0.0187**	**5.4000e-004**	**0.0193**			**63.6368**	**1.8700e-003**	**0.0000**	**63.6836**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.1194	0.1613	2.6000e-004		8.3700e-003	8.3700e-003		8.3700e-003	8.3700e-003			22.4686	1.5400e-003	0.0000	22.5072
Total	**5.2300e-003**	**0.1194**	**0.1613**	**2.6000e-004**		**8.3700e-003**	**8.3700e-003**		**8.3700e-003**	**8.3700e-003**			**22.4686**	**1.5400e-003**	**0.0000**	**22.5072**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	0.0277	0.0216	0.2433	7.0000e-004	0.0705	5.8000e-004	0.0711	0.0187	5.4000e-004	0.0193			63.6368	1.8700e-003	0.0000	63.6836
Total	**0.0277**	**0.0216**	**0.2433**	**7.0000e-004**	**0.0705**	**5.8000e-004**	**0.0711**	**0.0187**	**5.4000e-004**	**0.0193**			**63.6368**	**1.8700e-003**	**0.0000**	**63.6836**

3.10 Warren Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	5.7300e-003	0.0394	0.0508	8.0000e-005		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003			7.1491	4.7000e-004	0.0000	7.1608
Total	**5.7300e-003**	**0.0394**	**0.0508**	**8.0000e-005**		**2.2900e-003**	**2.2900e-003**		**2.2900e-003**	**2.2900e-003**			**7.1491**	**4.7000e-004**	**0.0000**	**7.1608**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	8.2600e-003	6.1900e-003	0.0713	2.2000e-004	0.0224	1.8000e-004	0.0226	5.9600e-003	1.7000e-004	6.1200e-003			19.5363	5.4000e-004	0.0000	19.5498
Total	**8.2600e-003**	**6.1900e-003**	**0.0713**	**2.2000e-004**	**0.0224**	**1.8000e-004**	**0.0226**	**5.9600e-003**	**1.7000e-004**	**6.1200e-003**			**19.5363**	**5.4000e-004**	**0.0000**	**19.5498**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0380	0.0513	8.0000e-005		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003			7.1491	4.7000e-004	0.0000	7.1607
Total	**1.6600e-003**	**0.0380**	**0.0513**	**8.0000e-005**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**			**7.1491**	**4.7000e-004**	**0.0000**	**7.1607**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	8.2600e-003	6.1900e-003	0.0713	2.2000e-004	0.0224	1.8000e-004	0.0226	5.9600e-003	1.7000e-004	6.1200e-003			19.5363	5.4000e-004	0.0000	19.5498
Total	**8.2600e-003**	**6.1900e-003**	**0.0713**	**2.2000e-004**	**0.0224**	**1.8000e-004**	**0.0226**	**5.9600e-003**	**1.7000e-004**	**6.1200e-003**			**19.5363**	**5.4000e-004**	**0.0000**	**19.5498**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments High Rise	0.00	0.00	0.00		
Apartments High Rise	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000			2,606.7761	0.0735	0.0152	2,613.1461
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000			2,658.7019	0.0750	0.0155	2,665.1987
NaturalGas Mitigated	0.0618	0.5285	0.2249	3.3700e-003		0.0427	0.0427		0.0427	0.0427			612.0103	0.0117	0.0112	615.6472
NaturalGas Unmitigated	0.0814	0.6958	0.2961	4.4400e-003		0.0563	0.0563		0.0563	0.0563			805.7593	0.0154	0.0148	810.5475

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	3.90597e+006	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146			208.4374	4.0000e-003	3.8200e-003	209.6760
Apartments High Rise	3.93945e+006	0.0212	0.1815	0.0772	1.1600e-003		0.0147	0.0147		0.0147	0.0147			210.2240	4.0300e-003	3.8500e-003	211.4732
Apartments High Rise	7.25394e+006	0.0391	0.3343	0.1422	2.1300e-003		0.0270	0.0270		0.0270	0.0270			387.0979	7.4200e-003	7.1000e-003	389.3983
Total		**0.0814**	**0.6958**	**0.2961**	**4.4400e-003**		**0.0563**	**0.0563**		**0.0563**	**0.0563**			**805.7593**	**0.0155**	**0.0148**	**810.5475**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.96676e+006	0.0160	0.1367	0.0582	8.7000e-004		0.0111	0.0111		0.0111	0.0111			158.3175	3.0300e-003	2.9000e-003	159.2583
Apartments High Rise	2.99219e+006	0.0161	0.1379	0.0587	8.8000e-004		0.0112	0.0112		0.0112	0.0112			159.6745	3.0600e-003	2.9300e-003	160.6234
Apartments High Rise	5.50969e+006	0.0297	0.2539	0.1080	1.6200e-003		0.0205	0.0205		0.0205	0.0205			294.0183	5.6400e-003	5.3900e-003	295.7655
Total		**0.0618**	**0.5285**	**0.2249**	**3.3700e-003**		**0.0427**	**0.0427**		**0.0427**	**0.0427**			**612.0103**	**0.0117**	**0.0112**	**615.6472**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.47439e+006	687.7647	0.0194	4.0100e-003	689.4453
Apartments High Rise	1.48703e+006	693.6598	0.0196	4.0500e-003	695.3549
Apartments High Rise	2.73815e+006	1,277.2773	0.0360	7.4500e-003	1,280.3985
Total		**2,658.7019**	**0.0750**	**0.0155**	**2,665.1987**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.44559e+006	674.3323	0.0190	3.9300e-003	675.9801
Apartments High Rise	1.45798e+006	680.1123	0.0192	3.9700e-003	681.7743
Apartments High Rise	2.68467e+006	1,252.3315	0.0353	7.3100e-003	1,255.3917
Total		**2,606.7761**	**0.0735**	**0.0152**	**2,613.1461**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.4663	0.1606	13.9398	7.4000e-004		0.0774	0.0774		0.0774	0.0774			22.7920	0.0218	0.0000	23.3377
Unmitigated	5.4663	0.1606	13.9398	7.4000e-004		0.0774	0.0774		0.0774	0.0774			22.7920	0.0218	0.0000	23.3377

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1587					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	4.8891					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.4185	0.1606	13.9398	7.4000e-004		0.0774	0.0774		0.0774	0.0774			22.7920	0.0218	0.0000	23.3377
Total	**5.4664**	**0.1606**	**13.9398**	**7.4000e-004**		**0.0774**	**0.0774**		**0.0774**	**0.0774**			**22.7920**	**0.0218**	**0.0000**	**23.3377**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1587					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	4.8891					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.4185	0.1606	13.9398	7.4000e-004		0.0774	0.0774		0.0774	0.0774			22.7920	0.0218	0.0000	23.3377
Total	**5.4664**	**0.1606**	**13.9398**	**7.4000e-004**		**0.0774**	**0.0774**		**0.0774**	**0.0774**			**22.7920**	**0.0218**	**0.0000**	**23.3377**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	771.3757	3.9535	0.0971	899.1595
Unmitigated	771.3757	3.9535	0.0971	899.1595

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	120.693 / 0	771.3757	3.9535	0.0971	899.1595
Total		**771.3757**	**3.9535**	**0.0971**	**899.1595**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	120.693 / 0	771.3757	3.9535	0.0971	899.1595
Total		**771.3757**	**3.9535**	**0.0971**	**899.1595**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	6	650	0.73	Diesel
Emergency Generator	1	0.5	6	750	0.73	Diesel
Emergency Generator	1	0.5	6	1250	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (600 - 750 HP)	3.2000e-003	8.9400e-003	8.1600e-003	2.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004			1.4851	2.1000e-004	0.0000	1.4903
Emergency Generator - Diesel (750 - 9999 HP)	9.8500e-003	0.0440	0.0251	5.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003			4.5696	6.4000e-004	0.0000	4.5856
Total	**0.0131**	**0.0530**	**0.0333**	**7.0000e-005**		**1.9200e-003**	**1.9200e-003**		**1.9200e-003**	**1.9200e-003**			**6.0547**	**8.5000e-004**	**0.0000**	**6.0759**

11.0 Vegetation

UCLA LRDP Amendment & Student Housing - Bradley Drake

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	240.00	Dwelling Unit	1.30	240,000.00	800
Apartments Mid Rise	122.00	Dwelling Unit	1.10	122,000.00	600

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1028.4	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Start 11/1/2022
CO2 intensity with 33% renew in 2025

Land Use - Bradley 122 du, 1.1 ac. 600 pop; Drake 240 du, 1.3 ac, 800 pop

Construction Phase - Const schedule per PD. One month assumed for all paving

Off-road Equipment - 3 sites grading

Off-road Equipment - 1 roller

Off-road Equipment - 2 projects paint

Off-road Equipment - No generator needed; add drill rig

Off-road Equipment - Add 2 excavators

Off-road Equipment - No generator needed; add drill rig

Off-road Equipment - Drake-sidewalk demo; minimal site prep/grading

Trips and VMT - Haul Truck trips per UCLA; Worker-vendor per appx A

Demolition -

Grading -

Architectural Coating - No exterior coating.
Reactivity adjusted VOC

Vehicle Trips - No added vehicle trips

Woodstoves - No woodstoves or fireplaces

Area Coating - No exterior coating
Reactivity adjusted VOC

Energy Use - x

Water And Wastewater - Water data from WSA
No added landscape water

Construction Off-road Equipment Mitigation - Excavators, graders, dozer, loader for Brad Grading Tier 4
All other Tier 3

Energy Mitigation - 20% better than 2016 code = 42.4% better than 2013

Waste Mitigation -

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Emerg generators 0.5 hrs once per month

Stationary Sources - Process Boilers -

Solid Waste - By 2025 all solid waste will be diverted from landfill

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	244,350.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblAreaCoating	Area_EF_Residential_Interior	50	25
tblAreaCoating	Area_Residential_Exterior	244350	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblFireplaces	NumberGas	204.00	0.00
tblFireplaces	NumberGas	103.70	0.00
tblFireplaces	NumberNoFireplace	24.00	240.00
tblFireplaces	NumberNoFireplace	12.20	122.00
tblFireplaces	NumberWood	12.00	0.00
tblFireplaces	NumberWood	6.10	0.00
tblGrading	AcresOfGrading	33.00	3.00
tblLandUse	LotAcreage	3.87	1.30

tblLandUse	LotAcreage	3.21	1.10
tblLandUse	Population	686.00	800.00
tblLandUse	Population	349.00	600.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1028.4
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	110.40	0.00
tblSolidWaste	SolidWasteGenerationRate	56.12	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	22.00
tblTripsAndVMT	HaulingTripNumber	0.00	8,200.00
tblTripsAndVMT	WorkerTripNumber	10.00	13.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblVehicleTrips	ST_TR	4.98	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	SU_TR	3.65	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	WD_TR	4.20	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblWater	IndoorWaterUseRate	15,636,966.15	18,204,010.00
tblWater	IndoorWaterUseRate	7,948,791.13	12,781,935.00

tblWater	OutdoorWaterUseRate	9,858,087.35	0.00
tblWater	OutdoorWaterUseRate	5,011,194.41	0.00
tblWoodstoves	NumberCatalytic	12.00	0.00
tblWoodstoves	NumberCatalytic	6.10	0.00
tblWoodstoves	NumberNoncatalytic	12.00	0.00
tblWoodstoves	NumberNoncatalytic	6.10	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0246	0.2446	0.2151	4.4000e-004	3.3100e-003	0.0105	0.0138	8.8000e-004	9.9100e-003	0.0108			38.4296	8.3000e-003	0.0000	38.6372
2023	0.5586	4.2316	4.6437	0.0154	0.8150	0.1308	0.9458	0.2743	0.1228	0.3971			1,390.6338	0.1829	0.0000	1,395.2065
2024	0.6662	4.0829	5.5337	0.0165	0.8137	0.1349	0.9486	0.2176	0.1272	0.3448			1,464.1501	0.1937	0.0000	1,468.9926
2025	0.7591	2.0531	2.9097	8.5300e-003	0.4209	0.0658	0.4867	0.1125	0.0621	0.1746			754.9377	0.0998	0.0000	757.4321
Maximum	**0.7591**	**4.2316**	**5.5337**	**0.0165**	**0.8150**	**0.1349**	**0.9486**	**0.2743**	**0.1272**	**0.3971**			**1,464.1501**	**0.1937**	**0.0000**	**1,468.9926**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	7.2100e-003	0.0797	0.2509	4.4000e-004	3.3100e-003	4.8700e-003	8.1800e-003	8.8000e-004	4.8700e-003	5.7400e-003			38.4296	8.3000e-003	0.0000	38.6371
2023	0.3620	3.8115	5.4448	0.0154	0.6928	0.1297	0.8225	0.2075	0.1294	0.3369			1,390.6332	0.1829	0.0000	1,395.2059
2024	0.4737	4.5499	6.5671	0.0165	0.8137	0.1877	1.0014	0.2176	0.1872	0.4048			1,464.1493	0.1937	0.0000	1,468.9918
2025	0.6652	2.3835	3.4439	8.5300e-003	0.4209	0.1019	0.5228	0.1125	0.1017	0.2142			754.9373	0.0098	0.0000	757.4317
Maximum	**0.6652**	**4.5499**	**6.5671**	**0.0165**	**0.8137**	**0.1877**	**1.0014**	**0.2176**	**0.1872**	**0.4048**			**1,464.1493**	**0.1937**	**0.0000**	**1,468.9918**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**24.91**	**-2.00**	**-18.08**	**0.00**	**5.95**	**-24.04**	**1.67**	**11.03**	**-31.40**	**-3.71**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	11-1-2022	1-31-2023	0.3889	0.1295
2	2-1-2023	4-30-2023	0.6076	0.6133
3	5-1-2023	7-31-2023	1.9519	1.3909
4	8-1-2023	10-31-2023	0.6262	0.6321
5	11-1-2023	1-31-2024	0.6190	0.6345
6	2-1-2024	4-30-2024	0.5824	0.6161
7	5-1-2024	7-31-2024	0.5917	0.6261
8	8-1-2024	10-31-2024	0.5936	0.6280
9	11-1-2024	1-31-2025	0.5872	0.6302
10	2-1-2025	4-30-2025	0.5473	0.6052
11	5-1-2025	7-31-2025	0.9642	1.0050
		Highest	1.9519	1.3909

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4625	0.0430	3.7297	2.0000e-004		0.0207	0.0207		0.0207	0.0207			6.0981	5.8400e-003	0.0000	6.2441
Energy	0.0218	0.1862	0.0792	1.1900e-003		0.0151	0.0151		0.0151	0.0151			926.9290	0.0242	8.1000e-003	929.9484
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Stationary	4.4300e-003	0.0124	0.0113	2.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004			2.0563	2.9000e-004	0.0000	2.0635
Waste						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000			198.0379	1.0150	0.0249	230.8443
Total	**1.4888**	**0.2415**	**3.8202**	**1.4100e-003**	**0.0000**	**0.0364**	**0.0364**	**0.0000**	**0.0364**	**0.0364**			**1,133.1213**	**1.0453**	**0.0330**	**1,169.1002**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4625	0.0430	3.7297	2.0000e-004		0.0207	0.0207		0.0207	0.0207			6.0981	5.8400e-003	0.0000	6.2441
Energy	0.0166	0.1414	0.0602	9.0000e-004		0.0114	0.0114		0.0114	0.0114			861.1979	0.0228	7.0700e-003	863.8752
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Stationary	4.4300e-003	0.0124	0.0113	2.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004			2.0563	2.9000e-004	0.0000	2.0635

Waste						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000			198.0379	1.0150	0.0249	230.8443
Total	**1.4835**	**0.1967**	**3.8011**	**1.1200e-003**	**0.0000**	**0.0328**	**0.0328**	**0.0000**	**0.0328**	**0.0328**			**1,067.3901**	**1.0439**	**0.0320**	**1,103.0271**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.35**	**18.53**	**0.50**	**20.57**	**0.00**	**9.95**	**9.95**	**0.00**	**9.95**	**9.95**	**0.00**	**0.00**	**5.80**	**0.13**	**3.12**	**5.65**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Drake Demo/Grading	Demolition	11/1/2022	1/31/2023	5	66	
2	Drake Building Construction	Building Construction	2/1/2023	6/30/2025	5	629	
3	Bradley Grading	Grading	5/1/2023	7/31/2023	5	66	
4	Bradley Building	Building Construction	8/1/2023	6/30/2025	5	500	
5	Architectural Coating	Architectural Coating	5/1/2025	7/30/2025	5	65	
6	All paving	Paving	6/1/2025	6/30/2025	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 733,050; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Drake Demo/Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Drake Demo/Grading	Graders	1	8.00	187	0.41
Drake Demo/Grading	Rubber Tired Dozers	0	0.00	247	0.40
Drake Demo/Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Drake Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Drake Building Construction	Cranes	1	8.00	231	0.29
Drake Building Construction	Forklifts	2	7.00	89	0.20
Drake Building Construction	Generator Sets	0	0.00	84	0.74
Drake Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Drake Building Construction	Welders	3	8.00	46	0.45
Bradley Grading	Excavators	2	8.00	158	0.38
Bradley Grading	Graders	1	8.00	187	0.41
Bradley Grading	Rubber Tired Dozers	1	8.00	247	0.40
Bradley Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Bradley Building	Bore/Drill Rigs	1	8.00	221	0.50
Bradley Building	Cranes	1	8.00	231	0.29
Bradley Building	Forklifts	2	7.00	89	0.20
Bradley Building	Generator Sets	0	0.00	84	0.74
Bradley Building	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bradley Building	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	2	6.00	78	0.48
All paving	Cement and Mortar Mixers	1	8.00	9	0.56
All paving	Pavers	1	8.00	130	0.42
All paving	Paving Equipment	1	8.00	132	0.36
All paving	Rollers	1	8.00	80	0.38
All paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Drake Demo/Grading	4	13.00	0.00	22.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drake Building Construction	8	261.00	39.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bradley Grading	6	10.00	0.00	8,200.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bradley Building	8	261.00	39.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	52.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
All paving	5	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Drake Demo/Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0233	0.2418	0.2047	4.0000e-004		0.0105	0.0105		9.8800e-003	9.8800e-003			35.1484	8.1900e-003	0.0000	35.3531
Total	**0.0233**	**0.2418**	**0.2047**	**4.0000e-004**		**0.0105**	**0.0105**		**9.8800e-003**	**9.8800e-003**			**35.1484**	**8.1900e-003**	**0.0000**	**35.3531**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	1.8800e-003	4.7000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	5.0000e-005			0.5524	4.0000e-005	0.0000	0.5533
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.1500e-003	8.7000e-004	9.9700e-003	3.0000e-005	3.1300e-003	3.0000e-005	3.1600e-003	8.3000e-004	2.0000e-005	8.6000e-004			2.7289	8.0000e-005	0.0000	2.7308
Total	**1.2100e-003**	**2.7500e-003**	**0.0104**	**4.0000e-005**	**3.3000e-003**	**4.0000e-005**	**3.3400e-003**	**8.8000e-004**	**3.0000e-005**	**9.1000e-004**			**3.2813**	**1.2000e-004**	**0.0000**	**3.2841**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.0000e-003	0.0769	0.2405	4.0000e-004		4.8400e-003	4.8400e-003		4.8400e-003	4.8400e-003			35.1483	8.1900e-003	0.0000	35.3530
Total	**6.0000e-003**	**0.0769**	**0.2405**	**4.0000e-004**		**4.8400e-003**	**4.8400e-003**		**4.8400e-003**	**4.8400e-003**			**35.1483**	**8.1900e-003**	**0.0000**	**35.3530**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	1.8800e-003	4.7000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	5.0000e-005			0.5524	4.0000e-005	0.0000	0.5533
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.1500e-003	8.7000e-004	9.9700e-003	3.0000e-005	3.1300e-003	3.0000e-005	3.1600e-003	8.3000e-004	2.0000e-005	8.6000e-004			2.7289	8.0000e-005	0.0000	2.7308
Total	**1.2100e-003**	**2.7500e-003**	**0.0104**	**4.0000e-005**	**3.3000e-003**	**4.0000e-005**	**3.3400e-003**	**8.8000e-004**	**3.0000e-005**	**9.1000e-004**			**3.2813**	**1.2000e-004**	**0.0000**	**3.2841**

3.2 Drake Demo/Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0108	0.1092	0.1018	2.0000e-004		4.5300e-003	4.5300e-003		4.2800e-003	4.2800e-003			17.5759	4.0600e-003	0.0000	17.6774
Total	**0.0108**	**0.1092**	**0.1018**	**2.0000e-004**		**4.5300e-003**	**4.5300e-003**		**4.2800e-003**	**4.2800e-003**			**17.5759**	**4.0600e-003**	**0.0000**	**17.6774**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	6.2000e-004	2.1000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005			0.2647	2.0000e-005	0.0000	0.2651
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.9000e-004	4.5800e-003	1.0000e-005	1.5700e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.3000e-004			1.3145	3.0000e-005	0.0000	1.3154
Total	**5.6000e-004**	**1.0100e-003**	**4.7900e-003**	**1.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**			**1.5792**	**5.0000e-005**	**0.0000**	**1.5805**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0000e-003	0.0385	0.1203	2.0000e-004		2.4200e-003	2.4200e-003		2.4200e-003	2.4200e-003			17.5759	4.0600e-003	0.0000	17.6774
Total	**3.0000e-003**	**0.0385**	**0.1203**	**2.0000e-004**		**2.4200e-003**	**2.4200e-003**		**2.4200e-003**	**2.4200e-003**			**17.5759**	**4.0600e-003**	**0.0000**	**17.6774**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	6.2000e-004	2.1000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005			0.2647	2.0000e-005	0.0000	0.2651
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.9000e-004	4.5800e-003	1.0000e-005	1.5700e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.3000e-004			1.3145	3.0000e-005	0.0000	1.3154
Total	**5.6000e-004**	**1.0100e-003**	**4.7900e-003**	**1.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**			**1.5792**	**5.0000e-005**	**0.0000**	**1.5805**

3.3 Drake Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1931	1.5408	1.4968	3.3200e-003		0.0656	0.0656		0.0619	0.0619			278.7281	0.0757	0.0000	280.6217
Total	**0.1931**	**1.5408**	**1.4968**	**3.3200e-003**		**0.0656**	**0.0656**		**0.0619**	**0.0619**			**278.7281**	**0.0757**	**0.0000**	**280.6217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0100	0.3288	0.1054	1.1300e-003	0.0292	3.8000e-004	0.0296	8.4400e-003	3.7000e-004	8.8000e-003			109.8443	5.9900e-003	0.0000	109.9940
Worker	0.1178	0.0850	0.9951	3.1600e-003	0.3403	2.6400e-003	0.3430	0.0904	2.4300e-003	0.0928			285.5066	7.3500e-003	0.0000	285.6903
Total	**0.1279**	**0.4138**	**1.1006**	**4.2900e-003**	**0.3696**	**3.0200e-003**	**0.3726**	**0.0988**	**2.8000e-003**	**0.1016**			**395.3509**	**0.0133**	**0.0000**	**395.6843**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0937	1.6615	1.9538	3.3200e-003		0.0823	0.0823		0.0823	0.0823			278.7278	0.0757	0.0000	280.6214
Total	**0.0937**	**1.6615**	**1.9538**	**3.3200e-003**		**0.0823**	**0.0823**		**0.0823**	**0.0823**			**278.7278**	**0.0757**	**0.0000**	**280.6214**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0100	0.3288	0.1054	1.1300e-003	0.0292	3.8000e-004	0.0296	8.4400e-003	3.7000e-004	8.8000e-003			109.8443	5.9900e-003	0.0000	109.9940
Worker	0.1178	0.0850	0.9951	3.1600e-003	0.3403	2.6400e-003	0.3430	0.0904	2.4300e-003	0.0928			285.5066	7.3500e-003	0.0000	285.6903
Total	**0.1279**	**0.4138**	**1.1006**	**4.2900e-003**	**0.3696**	**3.0200e-003**	**0.3726**	**0.0988**	**2.8000e-003**	**0.1016**			**395.3509**	**0.0133**	**0.0000**	**395.6843**

3.3 Drake Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1995	1.5956	1.6342	3.6600e-003		0.0642	0.0642		0.0605	0.0605			307.0836	0.0829	0.0000	309.1572
Total	**0.1995**	**1.5956**	**1.6342**	**3.6600e-003**		**0.0642**	**0.0642**		**0.0605**	**0.0605**			**307.0836**	**0.0829**	**0.0000**	**309.1572**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0108	0.3606	0.1125	1.2400e-003	0.0322	4.2000e-004	0.0326	9.2900e-003	4.0000e-004	9.6900e-003			120.4393	6.4900e-003	0.0000	120.6016
Worker	0.1229	0.0853	1.0202	3.3700e-003	0.3747	2.8600e-003	0.3775	0.0995	2.6400e-003	0.1022			304.5521	7.4200e-003	0.0000	304.7375
Total	**0.1337**	**0.4459**	**1.1327**	**4.6100e-003**	**0.4068**	**3.2800e-003**	**0.4101**	**0.1088**	**3.0400e-003**	**0.1118**			**424.9914**	**0.0139**	**0.0000**	**425.3391**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1032	1.8291	2.1509	3.6600e-003		0.0906	0.0906		0.0906	0.0906			307.0833	0.0829	0.0000	309.1568
Total	**0.1032**	**1.8291**	**2.1509**	**3.6600e-003**		**0.0906**	**0.0906**		**0.0906**	**0.0906**			**307.0833**	**0.0829**	**0.0000**	**309.1568**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0108	0.3606	0.1125	1.2400e-003	0.0322	4.2000e-004	0.0326	9.2900e-003	4.0000e-004	9.6900e-003			120.4393	6.4900e-003	0.0000	120.6016
Worker	0.1229	0.0853	1.0202	3.3700e-003	0.3747	2.8600e-003	0.3775	0.0995	2.6400e-003	0.1022			304.5521	7.4200e-003	0.0000	304.7375
Total	**0.1337**	**0.4459**	**1.1327**	**4.6100e-003**	**0.4068**	**3.2800e-003**	**0.4101**	**0.1088**	**3.0400e-003**	**0.1118**			**424.9914**	**0.0139**	**0.0000**	**425.3391**

3.3 Drake Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0924	0.7413	0.7988	1.8000e-003		0.0281	0.0281		0.0265	0.0265			151.2048	0.0406	0.0000	152.2194
Total	**0.0924**	**0.7413**	**0.7988**	**1.8000e-003**		**0.0281**	**0.0281**		**0.0265**	**0.0265**			**151.2048**	**0.0406**	**0.0000**	**152.2194**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	5.1800e-003	0.1760	0.0540	6.1000e-004	0.0159	2.0000e-004	0.0161	4.5700e-003	1.9000e-004	4.7700e-003			58.9772	3.1500e-003	0.0000	59.0559
Worker	0.0575	0.0384	0.4662	1.5900e-003	0.1845	1.3800e-003	0.1859	0.0490	1.2700e-003	0.0503			144.1449	3.3300e-003	0.0000	144.2282
Total	**0.0627**	**0.2144**	**0.5201**	**2.2000e-003**	**0.2003**	**1.5800e-003**	**0.2019**	**0.0536**	**1.4600e-003**	**0.0550**			**203.1221**	**6.4800e-003**	**0.0000**	**203.2841**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0508	0.9006	1.0590	1.8000e-003		0.0446	0.0446		0.0446	0.0446			151.2047	0.0406	0.0000	152.2193
Total	**0.0508**	**0.9006**	**1.0590**	**1.8000e-003**		**0.0446**	**0.0446**		**0.0446**	**0.0446**			**151.2047**	**0.0406**	**0.0000**	**152.2193**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	5.1800e-003	0.1760	0.0540	6.1000e-004	0.0159	2.0000e-004	0.0161	4.5700e-003	1.9000e-004	4.7700e-003			58.9772	3.1500e-003	0.0000	59.0559
Worker	0.0575	0.0384	0.4662	1.5900e-003	0.1845	1.3800e-003	0.1859	0.0490	1.2700e-003	0.0503			144.1449	3.3300e-003	0.0000	144.2282
Total	**0.0627**	**0.2144**	**0.5201**	**2.2000e-003**	**0.2003**	**1.5800e-003**	**0.2019**	**0.0536**	**1.4600e-003**	**0.0550**			**203.1221**	**6.4800e-003**	**0.0000**	**203.2841**

3.4 Bradley Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2003	0.0000	0.2003	0.1094	0.0000	0.1094			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0564	0.5796	0.5022	1.0200e-003		0.0250	0.0250		0.0230	0.0230			89.6863	0.0290	0.0000	90.4115
Total	**0.0564**	**0.5796**	**0.5022**	**1.0200e-003**	**0.2003**	**0.0250**	**0.2253**	**0.1094**	**0.0230**	**0.1324**			**89.6863**	**0.0290**	**0.0000**	**90.4115**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0216	0.6911	0.2374	3.0000e-003	0.0705	1.2400e-003	0.0717	0.0194	1.1800e-003	0.0205			295.9631	0.0198	0.0000	296.4588
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.2500e-003	9.0000e-004	0.0106	3.0000e-005	3.6200e-003	3.0000e-005	3.6400e-003	9.6000e-004	3.0000e-005	9.9000e-004			3.0335	8.0000e-005	0.0000	3.0354
Total	**0.0228**	**0.6920**	**0.2480**	**3.0300e-003**	**0.0741**	**1.2700e-003**	**0.0754**	**0.0203**	**1.2100e-003**	**0.0215**			**298.9965**	**0.0199**	**0.0000**	**299.4943**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0781	0.0000	0.0781	0.0427	0.0000	0.0427			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0125	0.0542	0.6185	1.0200e-003		1.6700e-003	1.6700e-003		1.6700e-003	1.6700e-003			89.6862	0.0290	0.0000	90.4114
Total	**0.0125**	**0.0542**	**0.6185**	**1.0200e-003**	**0.0781**	**1.6700e-003**	**0.0798**	**0.0427**	**1.6700e-003**	**0.0443**			**89.6862**	**0.0290**	**0.0000**	**90.4114**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0216	0.6911	0.2374	3.0000e-003	0.0705	1.2400e-003	0.0717	0.0194	1.1800e-003	0.0205			295.9631	0.0198	0.0000	296.4588
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.2500e-003	9.0000e-004	0.0106	3.0000e-005	3.6200e-003	3.0000e-005	3.6400e-003	9.6000e-004	3.0000e-005	9.9000e-004			3.0335	8.0000e-005	0.0000	3.0354
Total	**0.0228**	**0.6920**	**0.2480**	**3.0300e-003**	**0.0741**	**1.2700e-003**	**0.0754**	**0.0203**	**1.2100e-003**	**0.0215**			**298.9965**	**0.0199**	**0.0000**	**299.4943**

3.5 Bradley Building - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0885	0.7057	0.6855	1.5200e-003		0.0301	0.0301		0.0284	0.0284			127.6528	0.0347	0.0000	128.5200
Total	**0.0885**	**0.7057**	**0.6855**	**1.5200e-003**		**0.0301**	**0.0301**		**0.0284**	**0.0284**			**127.6528**	**0.0347**	**0.0000**	**128.5200**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-003	0.1506	0.0483	5.2000e-004	0.0134	1.8000e-004	0.0136	3.8600e-003	1.7000e-004	4.0300e-003			50.3069	2.7400e-003	0.0000	50.3754
Worker	0.0540	0.0389	0.4558	1.4500e-003	0.1559	1.2100e-003	0.1571	0.0414	1.1100e-003	0.0425			130.7572	3.3700e-003	0.0000	130.8414
Total	**0.0586**	**0.1895**	**0.5040**	**1.9700e-003**	**0.1693**	**1.3900e-003**	**0.1706**	**0.0453**	**1.2800e-003**	**0.0465**			**181.0641**	**6.1100e-003**	**0.0000**	**181.2168**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0429	0.7609	0.8948	1.5200e-003		0.0377	0.0377		0.0377	0.0377			127.6526	0.0347	0.0000	128.5199
Total	**0.0429**	**0.7609**	**0.8948**	**1.5200e-003**		**0.0377**	**0.0377**		**0.0377**	**0.0377**			**127.6526**	**0.0347**	**0.0000**	**128.5199**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-003	0.1506	0.0483	5.2000e-004	0.0134	1.8000e-004	0.0136	3.8600e-003	1.7000e-004	4.0300e-003			50.3069	2.7400e-003	0.0000	50.3754
Worker	0.0540	0.0389	0.4558	1.4500e-003	0.1559	1.2100e-003	0.1571	0.0414	1.1100e-003	0.0425			130.7572	3.3700e-003	0.0000	130.8414
Total	**0.0586**	**0.1895**	**0.5040**	**1.9700e-003**	**0.1693**	**1.3900e-003**	**0.1706**	**0.0453**	**1.2800e-003**	**0.0465**			**181.0641**	**6.1100e-003**	**0.0000**	**181.2168**

3.5 Bradley Building - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1995	1.5956	1.6342	3.6600e-003		0.0642	0.0642		0.0605	0.0605			307.0836	0.0829	0.0000	309.1572
Total	**0.1995**	**1.5956**	**1.6342**	**3.6600e-003**		**0.0642**	**0.0642**		**0.0605**	**0.0605**			**307.0836**	**0.0829**	**0.0000**	**309.1572**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0108	0.3606	0.1125	1.2400e-003	0.0322	4.2000e-004	0.0326	9.2900e-003	4.0000e-004	9.6900e-003			120.4393	6.4900e-003	0.0000	120.6016
Worker	0.1229	0.0853	1.0202	3.3700e-003	0.3747	2.8600e-003	0.3775	0.0995	2.6400e-003	0.1022			304.5521	7.4200e-003	0.0000	304.7375
Total	**0.1337**	**0.4459**	**1.1327**	**4.6100e-003**	**0.4068**	**3.2800e-003**	**0.4101**	**0.1088**	**3.0400e-003**	**0.1118**			**424.9914**	**0.0139**	**0.0000**	**425.3391**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1032	1.8291	2.1509	3.6600e-003		0.0906	0.0906		0.0906	0.0906			307.0833	0.0829	0.0000	309.1568
Total	**0.1032**	**1.8291**	**2.1509**	**3.6600e-003**		**0.0906**	**0.0906**		**0.0906**	**0.0906**			**307.0833**	**0.0829**	**0.0000**	**309.1568**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0108	0.3606	0.1125	1.2400e-003	0.0322	4.2000e-004	0.0326	9.2900e-003	4.0000e-004	9.6900e-003			120.4393	6.4900e-003	0.0000	120.6016
Worker	0.1229	0.0853	1.0202	3.3700e-003	0.3747	2.8600e-003	0.3775	0.0995	2.6400e-003	0.1022			304.5521	7.4200e-003	0.0000	304.7375
Total	**0.1337**	**0.4459**	**1.1327**	**4.6100e-003**	**0.4068**	**3.2800e-003**	**0.4101**	**0.1088**	**3.0400e-003**	**0.1118**			**424.9914**	**0.0139**	**0.0000**	**425.3391**

3.5 Bradley Building - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0924	0.7413	0.7988	1.8000e-003		0.0281	0.0281		0.0265	0.0265			151.2048	0.0406	0.0000	152.2194
Total	**0.0924**	**0.7413**	**0.7988**	**1.8000e-003**		**0.0281**	**0.0281**		**0.0265**	**0.0265**			**151.2048**	**0.0406**	**0.0000**	**152.2194**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	5.1800e-003	0.1760	0.0540	6.1000e-004	0.0159	2.0000e-004	0.0161	4.5700e-003	1.9000e-004	4.7700e-003			58.9772	3.1500e-003	0.0000	59.0559
Worker	0.0575	0.0384	0.4662	1.5900e-003	0.1845	1.3800e-003	0.1859	0.0490	1.2700e-003	0.0503			144.1449	3.3300e-003	0.0000	144.2282
Total	**0.0627**	**0.2144**	**0.5201**	**2.2000e-003**	**0.2003**	**1.5800e-003**	**0.2019**	**0.0536**	**1.4600e-003**	**0.0550**			**203.1221**	**6.4800e-003**	**0.0000**	**203.2841**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0508	0.9006	1.0590	1.8000e-003		0.0446	0.0446		0.0446	0.0446			151.2047	0.0406	0.0000	152.2193
Total	**0.0508**	**0.9006**	**1.0590**	**1.8000e-003**		**0.0446**	**0.0446**		**0.0446**	**0.0446**			**151.2047**	**0.0406**	**0.0000**	**152.2193**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	5.1800e-003	0.1760	0.0540	6.1000e-004	0.0159	2.0000e-004	0.0161	4.5700e-003	1.9000e-004	4.7700e-003			58.9772	3.1500e-003	0.0000	59.0559
Worker	0.0575	0.0384	0.4662	1.5900e-003	0.1845	1.3800e-003	0.1859	0.0490	1.2700e-003	0.0503			144.1449	3.3300e-003	0.0000	144.2282
Total	**0.0627**	**0.2144**	**0.5201**	**2.2000e-003**	**0.2003**	**1.5800e-003**	**0.2019**	**0.0536**	**1.4600e-003**	**0.0550**			**203.1221**	**6.4800e-003**	**0.0000**	**203.2841**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4247					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0111	0.0745	0.1176	1.9000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003			16.5962	9.1000e-004	0.0000	16.6188
Total	**0.4358**	**0.0745**	**0.1176**	**1.9000e-004**		**3.3500e-003**	**3.3500e-003**		**3.3500e-003**	**3.3500e-003**			**16.5962**	**9.1000e-004**	**0.0000**	**16.6188**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	5.7700e-003	3.8600e-003	0.0468	1.6000e-004	0.0185	1.4000e-004	0.0187	4.9200e-003	1.3000e-004	5.0500e-003			14.4706	3.3000e-004	0.0000	14.4789
Total	**5.7700e-003**	**3.8600e-003**	**0.0468**	**1.6000e-004**	**0.0185**	**1.4000e-004**	**0.0187**	**4.9200e-003**	**1.3000e-004**	**5.0500e-003**			**14.4706**	**3.3000e-004**	**0.0000**	**14.4789**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4247					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	3.8600e-003	0.0882	0.1191	1.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003			16.5961	9.1000e-004	0.0000	16.6188
Total	**0.4286**	**0.0882**	**0.1191**	**1.9000e-004**		**6.1800e-003**	**6.1800e-003**		**6.1800e-003**	**6.1800e-003**			**16.5961**	**9.1000e-004**	**0.0000**	**16.6188**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	5.7700e-003	3.8600e-003	0.0468	1.6000e-004	0.0185	1.4000e-004	0.0187	4.9200e-003	1.3000e-004	5.0500e-003			14.4706	3.3000e-004	0.0000	14.4789
Total	**5.7700e-003**	**3.8600e-003**	**0.0468**	**1.6000e-004**	**0.0185**	**1.4000e-004**	**0.0187**	**4.9200e-003**	**1.3000e-004**	**5.0500e-003**			**14.4706**	**3.3000e-004**	**0.0000**	**14.4789**

3.7 All paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.8100e-003	0.0629	0.1032	1.6000e-004		2.9200e-003	2.9200e-003		2.6900e-003	2.6900e-003			13.8685	4.3800e-003	0.0000	13.9780
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**6.8100e-003**	**0.0629**	**0.1032**	**1.6000e-004**		**2.9200e-003**	**2.9200e-003**		**2.6900e-003**	**2.6900e-003**			**13.8685**	**4.3800e-003**	**0.0000**	**13.9780**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.6000e-004	4.3600e-003	1.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004			1.3486	3.0000e-005	0.0000	1.3494
Total	**5.4000e-004**	**3.6000e-004**	**4.3600e-003**	**1.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**			**1.3486**	**3.0000e-005**	**0.0000**	**1.3494**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.3400e-003	0.0610	0.1154	1.6000e-004		3.2500e-003	3.2500e-003		3.2500e-003	3.2500e-003			13.8685	4.3800e-003	0.0000	13.9780
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**3.3400e-003**	**0.0610**	**0.1154**	**1.6000e-004**		**3.2500e-003**	**3.2500e-003**		**3.2500e-003**	**3.2500e-003**			**13.8685**	**4.3800e-003**	**0.0000**	**13.9780**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.6000e-004	4.3600e-003	1.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004			1.3486	3.0000e-005	0.0000	1.3494
Total	**5.4000e-004**	**3.6000e-004**	**4.3600e-003**	**1.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**			**1.3486**	**3.0000e-005**	**0.0000**	**1.3494**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
Apartments Mid Rise	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments Mid Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000			697.4523	0.0197	4.0700e-003	699.1566
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000			711.3452	0.0201	4.1500e-003	713.0835
NaturalGas Mitigated	0.0166	0.1414	0.0602	9.0000e-004		0.0114	0.0114		0.0114	0.0114			163.7456	3.1400e-003	3.0000e-003	164.7186
NaturalGas Unmitigated	0.0218	0.1862	0.0792	1.1900e-003		0.0151	0.0151		0.0151	0.0151			215.5838	4.1300e-003	3.9500e-003	216.8649

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.67838e+006	0.0144	0.1234	0.0525	7.9000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003			142.9285	2.7400e-003	2.6200e-003	143.7778
Apartments Mid Rise	1.36151e+006	7.3400e-003	0.0627	0.0267	4.0000e-004		5.0700e-003	5.0700e-003		5.0700e-003	5.0700e-003			72.6553	1.3900e-003	1.3300e-003	73.0871
Total		**0.0218**	**0.1862**	**0.0792**	**1.1900e-003**		**0.0151**	**0.0151**		**0.0151**	**0.0151**			**215.5838**	**4.1300e-003**	**3.9500e-003**	**216.8649**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.03435e+006	0.0110	0.0937	0.0399	6.0000e-004		7.5800e-003	7.5800e-003		7.5800e-003	7.5800e-003			108.5606	2.0800e-003	1.9900e-003	109.2057
Apartments Mid Rise	1.03413e+006	5.5800e-003	0.0477	0.0203	3.0000e-004		3.8500e-003	3.8500e-003		3.8500e-003	3.8500e-003			55.1850	1.0600e-003	1.0100e-003	55.5129
Total		**0.0166**	**0.1414**	**0.0602**	**9.0000e-004**		**0.0114**	**0.0114**		**0.0114**	**0.0114**			**163.7455**	**3.1400e-003**	**3.0000e-003**	**164.7186**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.01101e+006	471.6101	0.0133	2.7500e-003	472.7625
Apartments Mid Rise	513930	239.7351	6.7600e-003	1.4000e-003	240.3210
Total		**711.3452**	**0.0201**	**4.1500e-003**	**713.0835**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	991264	462.3993	0.0130	2.7000e-003	463.5292
Apartments Mid Rise	503893	235.0530	6.6300e-003	1.3700e-003	235.6274
Total		**697.4523**	**0.0197**	**4.0700e-003**	**699.1566**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4625	0.0430	3.7297	2.0000e-004		0.0207	0.0207		0.0207	0.0207			6.0981	5.8400e-003	0.0000	6.2441
Unmitigated	1.4625	0.0430	3.7297	2.0000e-004		0.0207	0.0207		0.0207	0.0207			6.0981	5.8400e-003	0.0000	6.2441

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0425					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3081					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.1120	0.0430	3.7297	2.0000e-004		0.0207	0.0207		0.0207	0.0207			6.0981	5.8400e-003	0.0000	6.2441
Total	**1.4625**	**0.0430**	**3.7297**	**2.0000e-004**		**0.0207**	**0.0207**		**0.0207**	**0.0207**			**6.0981**	**5.8400e-003**	**0.0000**	**6.2441**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0425					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3081					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.1120	0.0430	3.7297	2.0000e-004		0.0207	0.0207		0.0207	0.0207			6.0981	5.8400e-003	0.0000	6.2441
Total	**1.4625**	**0.0430**	**3.7297**	**2.0000e-004**		**0.0207**	**0.0207**		**0.0207**	**0.0207**			**6.0981**	**5.8400e-003**	**0.0000**	**6.2441**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	198.0379	1.0150	0.0249	230.8443
Unmitigated	198.0379	1.0150	0.0249	230.8443

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	18.204 / 0	116.3458	0.5963	0.0147	135.6193
Apartments Mid Rise	12.7819 / 0	81.6921	0.4187	0.0103	95.2250
Total		**198.0379**	**1.0150**	**0.0249**	**230.8443**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	18.204 / 0	116.3458	0.5963	0.0147	135.6193
Apartments Mid Rise	12.7819 / 0	81.6921	0.4187	0.0103	95.2250
Total		**198.0379**	**1.0150**	**0.0249**	**230.8443**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	6	500	0.73	Diesel
Emergency Generator	1	0.5	6	400	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (300 - 600 HP)	4.4300e-003	0.0124	0.0113	2.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004			2.0563	2.9000e-004	0.0000	2.0635
Total	**4.4300e-003**	**0.0124**	**0.0113**	**2.0000e-005**		**6.5000e-004**	**6.5000e-004**		**6.5000e-004**	**6.5000e-004**			**2.0563**	**2.9000e-004**	**0.0000**	**2.0635**

11.0 Vegetation

UCLA LRDP Amendment & Student Housing - Alternative 2

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	353.00	Dwelling Unit	1.70	353,000.00	1800
Apartments High Rise	50.00	Dwelling Unit	3.90	50,000.00	143
Apartments High Rise	350.00	Dwelling Unit	1.00	350,000.00	1350

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2025
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1028.4	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - OpYear 2025
CO2 intensity for 33% renew

Land Use - Alt reduced Warren to 200 beds

Construction Phase - Const schedule per PD. One month assumed for all paving

Off-road Equipment - 3 sites grading

Off-road Equipment -

Off-road Equipment - 2 sites

Off-road Equipment - L15-UNEX 2 sites double default; no gen-site power; add drill rigs

Off-road Equipment - Concurrent utilities

Off-road Equipment - x

Off-road Equipment - Interior work only

Off-road Equipment - 3 sites concurrent but only interior at Warren

Off-road Equipment - x

Trips and VMT - Haul Truck trips per pD; Worker-vendor per appx A

Demolition -

Grading -

Architectural Coating - No exterior coating. Coating VOC calculated manually.

Vehicle Trips - 220 weekday trips

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No woodstoves or fireplaces

Area Coating - No exterior paint
Reactivity adjusted VOC=25 g/L per UCLA reqts

Energy Use - Energy is default

Water And Wastewater - Water data from WSA; no change in landscape H2O

Construction Off-road Equipment Mitigation - All diesel const Tier3

Area Mitigation - Reactivity adjusted VOC

Energy Mitigation - 20% better than 2016 code = 42.4% better than 2013 baseline

Waste Mitigation - 70% waste reduction per current UCLA practice

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Emergency generators 0.5 hours/day, once/month

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	508,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	508,275.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	1,524,825.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	1,524,825.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00

tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	25.00
tblAreaCoating	Area_EF_Residential_Interior	50	25
tblAreaCoating	Area_Residential_Exterior	508275	0
tblAreaCoating	Area_Residential_Interior	1524825	2739825
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	86.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	230.00	630.00
tblConstructionPhase	NumDays	230.00	761.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	20.00	23.00
tblFireplaces	NumberGas	640.05	0.00
tblFireplaces	NumberNoFireplace	75.30	1,353.00
tblFireplaces	NumberWood	37.65	0.00
tblLandUse	LotAcreage	5.65	1.00
tblLandUse	LotAcreage	5.69	1.70
tblLandUse	LotAcreage	0.81	3.90
tblLandUse	Population	1,001.00	1,350.00
tblLandUse	Population	1,010.00	1,800.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1028.4
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	346.38	622.38
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,250.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	650.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	750.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	875.00	1,312.00
tblTripsAndVMT	HaulingTripNumber	1,568.00	5,080.00
tblTripsAndVMT	VendorTripNumber	80.00	75.00
tblTripsAndVMT	VendorTripNumber	80.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	542.00	506.00
tblTripsAndVMT	WorkerTripNumber	542.00	40.00
tblTripsAndVMT	WorkerTripNumber	108.00	101.00
tblTripsAndVMT	WorkerTripNumber	108.00	8.00
tblVehicleTrips	ST_TR	4.98	0.15

tblVehicleTrips	SU_TR	3.65	0.10
tblVehicleTrips	WD_TR	4.20	0.29
tblWater	IndoorWaterUseRate	49,060,981.29	73,337,354.00
tblWater	OutdoorWaterUseRate	30,929,749.08	0.00
tblWoodstoves	NumberCatalytic	37.65	0.00
tblWoodstoves	NumberNoncatalytic	37.65	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3195	3.7796	2.0460	6.2700e-003	0.3927	0.1352	0.5279	0.0747	0.1257	0.2005			586.2969	0.0918	0.0000	588.5918
2019	1.0384	7.5199	8.1404	0.0194	0.8509	0.3564	1.2072	0.2275	0.3306	0.5581			1,746.0094	0.2637	0.0000	1,752.6019
2020	0.9020	6.5089	7.3306	0.0185	0.8506	0.2892	1.1398	0.2275	0.2681	0.4956			1,659.6766	0.2464	0.0000	1,665.8357
2021	0.3692	2.5227	3.1970	7.9000e-003	0.3705	0.1135	0.4840	0.0990	0.1062	0.2052			708.1381	0.0971	0.0000	710.5657
2022	3.2000e-003	0.0200	0.0283	5.0000e-005	9.2000e-004	1.1500e-003	2.0700e-003	2.4000e-004	1.1500e-003	1.4000e-003			4.3761	2.5000e-004	0.0000	4.3824
Maximum	**1.0384**	**7.5199**	**8.1404**	**0.0194**	**0.8509**	**0.3564**	**1.2072**	**0.2275**	**0.3306**	**0.5581**			**1,746.0094**	**0.2637**	**0.0000**	**1,752.6019**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.1361	2.5091	2.2579	6.2700e-003	0.2473	0.0696	0.3169	0.0527	0.0694	0.1221			586.2966	0.0918	0.0000	588.5915
2019	0.6134	5.8514	8.8271	0.0194	0.8509	0.2593	1.1102	0.2275	0.2584	0.4860			1,746.0085	0.2637	0.0000	1,752.6010
2020	0.5693	5.5055	8.1895	0.0185	0.8506	0.2408	1.0914	0.2275	0.2401	0.4675			1,659.6759	0.2464	0.0000	1,665.8349
2021	0.2339	2.2842	3.5341	7.9000e-003	0.3705	0.1074	0.4779	0.0990	0.1071	0.2061			708.1377	0.0971	0.0000	710.5654
2022	1.1700e-003	0.0193	0.0286	5.0000e-005	9.2000e-004	1.3400e-003	2.2600e-003	2.4000e-004	1.3400e-003	1.5800e-003			4.3760	2.5000e-004	0.0000	4.3824
Maximum	**0.6134**	**5.8514**	**8.8271**	**0.0194**	**0.8509**	**0.2593**	**1.1102**	**0.2275**	**0.2584**	**0.4860**			**1,746.0085**	**0.2637**	**0.0000**	**1,752.6010**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**40.97**	**20.55**	**-10.10**	**0.00**	**5.90**	**24.22**	**10.78**	**3.50**	**18.69**	**12.15**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-1-2018	10-31-2018	1.1404	0.6436
2	11-1-2018	1-31-2019	1.3843	1.0250
3	2-1-2019	4-30-2019	1.8783	1.4481
4	5-1-2019	7-31-2019	1.9308	1.4861
5	8-1-2019	10-31-2019	1.9363	1.4916
6	11-1-2019	1-31-2020	1.8909	1.4891
7	2-1-2020	4-30-2020	1.7368	1.4264
8	5-1-2020	7-31-2020	1.7656	1.4484
9	8-1-2020	10-31-2020	1.7705	1.4533
10	11-1-2020	1-31-2021	1.7221	1.4507
11	2-1-2021	4-30-2021	1.9583	1.7157

12	**5-1-2021**	**7-31-2021**	0.0854	0.0708
14	**11-1-2021**	**1-31-2022**	0.0237	0.0209
		Highest	1.9583	1.7157

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.1126	0.0894	7.7581	4.1000e-004		0.0431	0.0431		0.0431	0.0431			12.6847	0.0122	0.0000	12.9884
Energy	0.0453	0.3872	0.1648	2.4700e-003		0.0313	0.0313		0.0313	0.0313			1,928.1147	0.0503	0.0169	1,934.3953
Mobile	0.1410	0.6711	1.9340	7.9100e-003	0.3087	6.0200e-003	0.3147	0.0919	5.6000e-003	0.0975			732.2426	0.0340	0.0000	733.0917
Stationary	0.0131	0.0530	0.0333	6.0000e-005		1.9200e-003	1.9200e-003		1.9200e-003	1.9200e-003			6.0547	8.5000e-004	0.0000	6.0759
Waste						0.0000	0.0000		0.0000	0.0000			126.3375	7.4663	0.0000	312.9959
Water						0.0000	0.0000		0.0000	0.0000			468.7149	2.4023	0.0590	546.3608
Total	**3.3120**	**1.2007**	**9.8901**	**0.0109**	**0.3087**	**0.0823**	**0.3910**	**0.0919**	**0.0819**	**0.1737**			**3,274.1492**	**9.9659**	**0.0759**	**3,545.9080**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.1126	0.0894	7.7581	4.1000e-004		0.0431	0.0431		0.0431	0.0431			12.6847	0.0122	0.0000	12.9884
Energy	0.0344	0.2941	0.1252	1.8800e-003		0.0238	0.0238		0.0238	0.0238			1,791.3867	0.0474	0.0147	1,796.9559
Mobile	0.1410	0.6711	1.9340	7.9100e-003	0.3087	6.0200e-003	0.3147	0.0919	5.6000e-003	0.0975			732.2426	0.0340	0.0000	733.0917
Stationary	0.0131	0.0530	0.0333	6.0000e-005		1.9200e-003	1.9200e-003		1.9200e-003	1.9200e-003			6.0547	8.5000e-004	0.0000	6.0759
Waste						0.0000	0.0000		0.0000	0.0000			37.9013	2.2399	0.0000	93.8988
Water						0.0000	0.0000		0.0000	0.0000			468.7149	2.4023	0.0590	546.3608
Total	**3.3011**	**1.1076**	**9.8505**	**0.0103**	**0.3087**	**0.0748**	**0.3835**	**0.0919**	**0.0744**	**0.1662**			**3,048.9849**	**4.7366**	**0.0737**	**3,189.3715**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.33**	**7.75**	**0.40**	**5.44**	**0.00**	**9.15**	**1.93**	**0.00**	**9.20**	**4.33**	**0.00**	**0.00**	**6.88**	**52.47**	**2.82**	**10.05**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	UNEX Demolition	Demolition	8/1/2018	9/30/2018	5	43	
2	Warr Abate-Demo/L15 demo-grad/UN grad	Demolition	10/1/2018	11/30/2018	5	45	
3	Sewer - utilities	Trenching	12/1/2018	5/31/2019	5	130	
4	L15-UNEX Building Construction	Building Construction	12/1/2018	4/30/2021	5	630	
5	War Building	Building Construction	2/1/2019	12/31/2021	5	761	
6	L15-UNEX Architectural Coating	Architectural Coating	2/1/2021	5/31/2021	5	86	
7	All paving	Paving	3/1/2021	3/31/2021	5	23	
8	Warren Architectural Coating	Architectural Coating	1/2/2022	1/31/2022	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
UNEX Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
UNEX Demolition	Excavators	3	8.00	158	0.38
UNEX Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Warr Abate-Demo/L15 demo-grad/UN grad	Concrete/Industrial Saws	1	8.00	81	0.73
Warr Abate-Demo/L15 demo-grad/UN grad	Excavators	3	8.00	158	0.38
Warr Abate-Demo/L15 demo-grad/UN grad	Graders	2	8.00	187	0.41
Warr Abate-Demo/L15 demo-grad/UN grad	Rubber Tired Dozers	2	8.00	247	0.40
Sewer - utilities	Signal Boards	3	16.00	6	0.82
Sewer - utilities	Tractors/Loaders/Backhoes	3	7.00	97	0.37
L15-UNEX Building Construction	Bore/Drill Rigs	2	7.00	221	0.50

L15-UNEX Building Construction	Cranes	2	7.00	231	0.29
L15-UNEX Building Construction	Forklifts	6	8.00	89	0.20
L15-UNEX Building Construction	Generator Sets	0	8.00	84	0.74
L15-UNEX Building Construction	Tractors/Loaders/Backhoes	6	7.00	97	0.37
L15-UNEX Building Construction	Welders	2	8.00	46	0.45
War Building	Cranes	0	0.00	231	0.29
War Building	Forklifts	1	8.00	89	0.20
War Building	Generator Sets	0	0.00	84	0.74
War Building	Tractors/Loaders/Backhoes	0	0.00	97	0.37
War Building	Welders	0	0.00	46	0.45
L15-UNEX Architectural Coating	Air Compressors	4	6.00	78	0.48
All paving	Pavers	2	8.00	130	0.42
All paving	Paving Equipment	2	8.00	132	0.36
All paving	Rollers	2	8.00	80	0.38
Warren Architectural Coating	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
UNEX Demolition	6	15.00	0.00	1,312.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warr Abate-Demo/L15 demo-grad/LIN grad	8	20.00	0.00	5,080.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Sewer - utilities	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Building Construction	18	506.00	75.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
War Building	1	40.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
L15-UNEX Architectural Coating	4	101.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
All paving	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Warren Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 UNEX Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0947	0.0000	0.0947	0.0143	0.0000	0.0143			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0800	0.8239	0.4795	8.3000e-004		0.0417	0.0417		0.0388	0.0388			75.5168	0.0208	0.0000	76.0369
Total	**0.0800**	**0.8239**	**0.4795**	**8.3000e-004**	**0.0947**	**0.0417**	**0.1364**	**0.0143**	**0.0388**	**0.0531**			**75.5168**	**0.0208**	**0.0000**	**76.0369**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.5800e-003	0.2191	0.0452	5.3000e-004	0.0113	8.1000e-004	0.0121	3.1000e-003	7.8000e-004	3.8700e-003			51.7428	3.6500e-003	0.0000	51.8340
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.5300e-003	0.0164	4.0000e-005	3.5300e-003	3.0000e-005	3.5700e-003	9.4000e-004	3.0000e-005	9.7000e-004			3.5114	1.3000e-004	0.0000	3.5147
Total	**8.3700e-003**	**0.2206**	**0.0616**	**5.7000e-004**	**0.0148**	**8.4000e-004**	**0.0157**	**4.0400e-003**	**8.1000e-004**	**4.8400e-003**			**55.2541**	**3.7800e-003**	**0.0000**	**55.3487**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0426	0.0000	0.0426	6.4500e-003	0.0000	6.4500e-003			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0199	0.3937	0.5305	8.3000e-004		0.0186	0.0186		0.0186	0.0186			75.5167	0.0208	0.0000	76.0368
Total	**0.0199**	**0.3937**	**0.5305**	**8.3000e-004**	**0.0426**	**0.0186**	**0.0612**	**6.4500e-003**	**0.0186**	**0.0250**			**75.5167**	**0.0208**	**0.0000**	**76.0368**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.5800e-003	0.2191	0.0452	5.3000e-004	0.0113	8.1000e-004	0.0121	3.1000e-003	7.8000e-004	3.8700e-003			51.7428	3.6500e-003	0.0000	51.8340
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.5300e-003	0.0164	4.0000e-005	3.5300e-003	3.0000e-005	3.5700e-003	9.4000e-004	3.0000e-005	9.7000e-004			3.5114	1.3000e-004	0.0000	3.5147
Total	**8.3700e-003**	**0.2206**	**0.0616**	**5.7000e-004**	**0.0148**	**8.4000e-004**	**0.0157**	**4.0400e-003**	**8.1000e-004**	**4.8400e-003**			**55.2541**	**3.7800e-003**	**0.0000**	**55.3487**

3.3 Warr Abate-Demo/L15 demo-grad/UN grad - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1697	0.0000	0.1697	0.0257	0.0000	0.0257			0.0000	0.0000	0.0000	0.0000
Off-Road	0.1071	1.1830	0.5880	1.1700e-003		0.0540	0.0540		0.0502	0.0502			106.3782	0.0303	0.0000	107.1353
Total	**0.1071**	**1.1830**	**0.5880**	**1.1700e-003**	**0.1697**	**0.0540**	**0.2237**	**0.0257**	**0.0502**	**0.0759**			**106.3782**	**0.0303**	**0.0000**	**107.1353**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0255	0.8483	0.1750	2.0400e-003	0.0437	3.1500e-003	0.0468	0.0120	3.0100e-003	0.0150			200.3455	0.0141	0.0000	200.6987
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	2.4900e-003	2.1300e-003	0.0229	5.0000e-005	4.9300e-003	4.0000e-005	4.9800e-003	1.3100e-003	4.0000e-005	1.3500e-003			4.8996	1.8000e-004	0.0000	4.9042
Total	**0.0280**	**0.8504**	**0.1979**	**2.0900e-003**	**0.0486**	**3.1900e-003**	**0.0518**	**0.0133**	**3.0500e-003**	**0.0164**			**205.2451**	**0.0143**	**0.0000**	**205.6029**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0764	0.0000	0.0764	0.0116	0.0000	0.0116			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0281	0.5532	0.7134	1.1700e-003		0.0248	0.0248		0.0248	0.0248			106.3780	0.0303	0.0000	107.1352
Total	**0.0281**	**0.5532**	**0.7134**	**1.1700e-003**	**0.0764**	**0.0248**	**0.1011**	**0.0116**	**0.0248**	**0.0363**			**106.3780**	**0.0303**	**0.0000**	**107.1352**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0255	0.8483	0.1750	2.0400e-003	0.0437	3.1500e-003	0.0468	0.0120	3.0100e-003	0.0150			200.3455	0.0141	0.0000	200.6987
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	2.4900e-003	2.1300e-003	0.0229	5.0000e-005	4.9300e-003	4.0000e-005	4.9800e-003	1.3100e-003	4.0000e-005	1.3500e-003			4.8996	1.8000e-004	0.0000	4.9042
Total	**0.0280**	**0.8504**	**0.1979**	**2.0900e-003**	**0.0486**	**3.1900e-003**	**0.0518**	**0.0133**	**3.0500e-003**	**0.0164**			**205.2451**	**0.0143**	**0.0000**	**205.6029**

3.4 Sewer - utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.0951	0.0834	1.3000e-004		6.0200e-003	6.0200e-003		5.6000e-003	5.6000e-003			10.6391	2.7300e-003	0.0000	10.7073
Total	**0.0110**	**0.0951**	**0.0834**	**1.3000e-004**		**6.0200e-003**	**6.0200e-003**		**5.6000e-003**	**5.6000e-003**			**10.6391**	**2.7300e-003**	**0.0000**	**10.7073**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	7.5000e-004	8.0300e-003	2.0000e-005	1.7300e-003	2.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004			1.7149	6.0000e-005	0.0000	1.7165
Total	**8.7000e-004**	**7.5000e-004**	**8.0300e-003**	**2.0000e-005**	**1.7300e-003**	**2.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**			**1.7149**	**6.0000e-005**	**0.0000**	**1.7165**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0900e-003	0.0478	0.0646	1.3000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003			10.6391	2.7300e-003	0.0000	10.7073
Total	**2.0900e-003**	**0.0478**	**0.0646**	**1.3000e-004**		**3.3500e-003**	**3.3500e-003**		**3.3500e-003**	**3.3500e-003**			**10.6391**	**2.7300e-003**	**0.0000**	**10.7073**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	7.5000e-004	8.0300e-003	2.0000e-005	1.7300e-003	2.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004			1.7149	6.0000e-005	0.0000	1.7165
Total	**8.7000e-004**	**7.5000e-004**	**8.0300e-003**	**2.0000e-005**	**1.7300e-003**	**2.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**			**1.7149**	**6.0000e-005**	**0.0000**	**1.7165**

3.4 Sewer - utilities - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0521	0.4519	0.4279	6.7000e-004		0.0269	0.0269		0.0251	0.0251			54.5429	0.0142	0.0000	54.8966
Total	**0.0521**	**0.4519**	**0.4279**	**6.7000e-004**		**0.0269**	**0.0269**		**0.0251**	**0.0251**			**54.5429**	**0.0142**	**0.0000**	**54.8966**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.0900e-003	3.4100e-003	0.0371	1.0000e-004	8.9600e-003	8.0000e-005	9.0400e-003	2.3800e-003	7.0000e-005	2.4500e-003			8.6112	3.0000e-004	0.0000	8.6186
Total	**4.0900e-003**	**3.4100e-003**	**0.0371**	**1.0000e-004**	**8.9600e-003**	**8.0000e-005**	**9.0400e-003**	**2.3800e-003**	**7.0000e-005**	**2.4500e-003**			**8.6112**	**3.0000e-004**	**0.0000**	**8.6186**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.2481	0.3351	6.7000e-004		0.0174	0.0174		0.0174	0.0174			54.5428	0.0142	0.0000	54.8965
Total	**0.0109**	**0.2481**	**0.3351**	**6.7000e-004**		**0.0174**	**0.0174**		**0.0174**	**0.0174**			**54.5428**	**0.0142**	**0.0000**	**54.8965**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.0900e-003	3.4100e-003	0.0371	1.0000e-004	8.9600e-003	8.0000e-005	9.0400e-003	2.3800e-003	7.0000e-005	2.4500e-003			8.6112	3.0000e-004	0.0000	8.6186
Total	**4.0900e-003**	**3.4100e-003**	**0.0371**	**1.0000e-004**	**8.9600e-003**	**8.0000e-005**	**9.0400e-003**	**2.3800e-003**	**7.0000e-005**	**2.4500e-003**			**8.6112**	**3.0000e-004**	**0.0000**	**8.6186**

3.5 L15-UNEX Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0512	0.4819	0.3289	6.0000e-004		0.0282	0.0282		0.0261	0.0261			53.8037	0.0163	0.0000	54.2106
Total	**0.0512**	**0.4819**	**0.3289**	**6.0000e-004**		**0.0282**	**0.0282**		**0.0261**	**0.0261**			**53.8037**	**0.0163**	**0.0000**	**54.2106**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	3.6900e-003	0.0986	0.0277	2.1000e-004	4.9600e-003	6.8000e-004	5.6400e-003	1.4300e-003	6.6000e-004	2.0900e-003			19.8975	1.3600e-003	0.0000	19.9316
Worker	0.0294	0.0252	0.2709	6.4000e-004	0.0582	5.3000e-004	0.0588	0.0155	4.9000e-004	0.0160			57.8477	2.1800e-003	0.0000	57.9020
Total	**0.0331**	**0.1238**	**0.2986**	**8.5000e-004**	**0.0632**	**1.2100e-003**	**0.0644**	**0.0169**	**1.1500e-003**	**0.0180**			**77.7451**	**3.5400e-003**	**0.0000**	**77.8336**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0157	0.3188	0.3833	6.0000e-004		0.0177	0.0177		0.0177	0.0177			53.8036	0.0163	0.0000	54.2106
Total	**0.0157**	**0.3188**	**0.3833**	**6.0000e-004**		**0.0177**	**0.0177**		**0.0177**	**0.0177**			**53.8036**	**0.0163**	**0.0000**	**54.2106**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	3.6900e-003	0.0986	0.0277	2.1000e-004	4.9600e-003	6.8000e-004	5.6400e-003	1.4300e-003	6.6000e-004	2.0900e-003			19.8975	1.3600e-003	0.0000	19.9316
Worker	0.0294	0.0252	0.2709	6.4000e-004	0.0582	5.3000e-004	0.0588	0.0155	4.9000e-004	0.0160			57.8477	2.1800e-003	0.0000	57.9020
Total	**0.0331**	**0.1238**	**0.2986**	**8.5000e-004**	**0.0632**	**1.2100e-003**	**0.0644**	**0.0169**	**1.1500e-003**	**0.0180**			**77.7451**	**3.5400e-003**	**0.0000**	**77.8336**

3.5 L15-UNEX Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.5642	5.3587	3.9801	7.4500e-003		0.3016	0.3016		0.2796	0.2796			658.2110	0.2009	0.0000	663.2340
Total	**0.5642**	**5.3587**	**3.9801**	**7.4500e-003**		**0.3016**	**0.3016**		**0.2796**	**0.2796**			**658.2110**	**0.2009**	**0.0000**	**663.2340**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0414	1.1561	0.3162	2.5300e-003	0.0617	7.2700e-003	0.0689	0.0178	6.9600e-003	0.0248			244.7506	0.0163	0.0000	245.1591
Worker	0.3308	0.2757	2.9979	7.7000e-003	0.7236	6.3600e-003	0.7300	0.1922	5.8600e-003	0.1981			695.5635	0.0239	0.0000	696.1614
Total	**0.3722**	**1.4318**	**3.3140**	**0.0102**	**0.7852**	**0.0136**	**0.7989**	**0.2100**	**0.0128**	**0.2228**			**940.3141**	**0.0403**	**0.0000**	**941.3205**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1950	3.9616	4.7635	7.4500e-003		0.2201	0.2201		0.2201	0.2201			658.2102	0.2009	0.0000	663.2332
Total	**0.1950**	**3.9616**	**4.7635**	**7.4500e-003**		**0.2201**	**0.2201**		**0.2201**	**0.2201**			**658.2102**	**0.2009**	**0.0000**	**663.2332**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0414	1.1561	0.3162	2.5300e-003	0.0617	7.2700e-003	0.0689	0.0178	6.9600e-003	0.0248			244.7506	0.0163	0.0000	245.1591
Worker	0.3308	0.2757	2.9979	7.7000e-003	0.7236	6.3600e-003	0.7300	0.1922	5.8600e-003	0.1981			695.5635	0.0239	0.0000	696.1614
Total	**0.3722**	**1.4318**	**3.3140**	**0.0102**	**0.7852**	**0.0136**	**0.7989**	**0.2100**	**0.0128**	**0.2228**			**940.3141**	**0.0403**	**0.0000**	**941.3205**

3.5 L15-UNEX Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.5145	4.9228	3.9205	7.4800e-003		0.2645	0.2645		0.2452	0.2452			647.9483	0.2009	0.0000	652.9707
Total	**0.5145**	**4.9228**	**3.9205**	**7.4800e-003**		**0.2645**	**0.2645**		**0.2452**	**0.2452**			**647.9483**	**0.2009**	**0.0000**	**652.9707**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0356	1.0647	0.2882	2.5200e-003	0.0619	4.9500e-003	0.0668	0.0179	4.7400e-003	0.0226			244.0787	0.0155	0.0000	244.4665
Worker	0.3060	0.2467	2.7285	7.4900e-003	0.7264	6.1900e-003	0.7326	0.1929	5.7100e-003	0.1986			677.0124	0.0213	0.0000	677.5458
Total	**0.3416**	**1.3114**	**3.0168**	**0.0100**	**0.7883**	**0.0111**	**0.7994**	**0.2108**	**0.0105**	**0.2212**			**921.0912**	**0.0369**	**0.0000**	**922.0123**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1957	3.9767	4.7818	7.4800e-003		0.2209	0.2209		0.2209	0.2209			647.9475	0.2009	0.0000	652.9700
Total	**0.1957**	**3.9767**	**4.7818**	**7.4800e-003**		**0.2209**	**0.2209**		**0.2209**	**0.2209**			**647.9475**	**0.2009**	**0.0000**	**652.9700**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0356	1.0647	0.2882	2.5200e-003	0.0619	4.9500e-003	0.0668	0.0179	4.7400e-003	0.0226			244.0787	0.0155	0.0000	244.4665
Worker	0.3060	0.2467	2.7285	7.4900e-003	0.7264	6.1900e-003	0.7326	0.1929	5.7100e-003	0.1986			677.0124	0.0213	0.0000	677.5458
Total	**0.3416**	**1.3114**	**3.0168**	**0.0100**	**0.7883**	**0.0111**	**0.7994**	**0.2108**	**0.0105**	**0.2212**			**921.0912**	**0.0369**	**0.0000**	**922.0123**

3.5 L15-UNEX Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1522	1.4543	1.2647	2.4600e-003		0.0749	0.0749		0.0694	0.0694			212.8628	0.0657	0.0000	214.5057
Total	**0.1522**	**1.4543**	**1.2647**	**2.4600e-003**		**0.0749**	**0.0749**		**0.0694**	**0.0694**			**212.8628**	**0.0657**	**0.0000**	**214.5057**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0100	0.3183	0.0863	8.2000e-004	0.0203	6.5000e-004	0.0210	5.8600e-003	6.2000e-004	6.4800e-003			79.4952	4.8800e-003	0.0000	79.6171
Worker	0.0936	0.0729	0.8228	2.3800e-003	0.2384	1.9700e-003	0.2404	0.0633	1.8100e-003	0.0651			215.1686	6.3300e-003	0.0000	215.3269
Total	**0.1036**	**0.3912**	**0.9091**	**3.2000e-003**	**0.2587**	**2.6200e-003**	**0.2614**	**0.0692**	**2.4300e-003**	**0.0716**			**294.6637**	**0.0112**	**0.0000**	**294.9439**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0642	1.3053	1.5696	2.4600e-003		0.0725	0.0725		0.0725	0.0725			212.8625	0.0657	0.0000	214.5054
Total	**0.0642**	**1.3053**	**1.5696**	**2.4600e-003**		**0.0725**	**0.0725**		**0.0725**	**0.0725**			**212.8625**	**0.0657**	**0.0000**	**214.5054**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0100	0.3183	0.0863	8.2000e-004	0.0203	6.5000e-004	0.0210	5.8600e-003	6.2000e-004	6.4800e-003			79.4952	4.8800e-003	0.0000	79.6171
Worker	0.0936	0.0729	0.8228	2.3800e-003	0.2384	1.9700e-003	0.2404	0.0633	1.8100e-003	0.0651			215.1686	6.3300e-003	0.0000	215.3269
Total	**0.1036**	**0.3912**	**0.9091**	**3.2000e-003**	**0.2587**	**2.6200e-003**	**0.2614**	**0.0692**	**2.4300e-003**	**0.0716**			**294.6637**	**0.0112**	**0.0000**	**294.9439**

3.6 War Building - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0190	0.1700	0.1421	1.8000e-004		0.0132	0.0132		0.0121	0.0121			16.3358	5.1700e-003	0.0000	16.4650
Total	**0.0190**	**0.1700**	**0.1421**	**1.8000e-004**		**0.0132**	**0.0132**		**0.0121**	**0.0121**			**16.3358**	**5.1700e-003**	**0.0000**	**16.4650**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	3.0200e-003	0.0843	0.0231	1.8000e-004	4.5000e-003	5.3000e-004	5.0300e-003	1.3000e-003	5.1000e-004	1.8100e-003			17.8546	1.1900e-003	0.0000	17.8844
Worker	0.0238	0.0199	0.2161	5.6000e-004	0.0522	4.6000e-004	0.0526	0.0139	4.2000e-004	0.0143			50.1398	1.7200e-003	0.0000	50.1829
Total	**0.0269**	**0.1042**	**0.2392**	**7.4000e-004**	**0.0567**	**9.9000e-004**	**0.0577**	**0.0152**	**9.3000e-004**	**0.0161**			**67.9944**	**2.9100e-003**	**0.0000**	**68.0673**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4800e-003	0.1024	0.1382	1.8000e-004		7.1700e-003	7.1700e-003		7.1700e-003	7.1700e-003			16.3358	5.1700e-003	0.0000	16.4650
Total	**4.4800e-003**	**0.1024**	**0.1382**	**1.8000e-004**		**7.1700e-003**	**7.1700e-003**		**7.1700e-003**	**7.1700e-003**			**16.3358**	**5.1700e-003**	**0.0000**	**16.4650**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	3.0200e-003	0.0843	0.0231	1.8000e-004	4.5000e-003	5.3000e-004	5.0300e-003	1.3000e-003	5.1000e-004	1.8100e-003			17.8546	1.1900e-003	0.0000	17.8844
Worker	0.0238	0.0199	0.2161	5.6000e-004	0.0522	4.6000e-004	0.0526	0.0139	4.2000e-004	0.0143			50.1398	1.7200e-003	0.0000	50.1829
Total	**0.0269**	**0.1042**	**0.2392**	**7.4000e-004**	**0.0567**	**9.9000e-004**	**0.0577**	**0.0152**	**9.3000e-004**	**0.0161**			**67.9944**	**2.9100e-003**	**0.0000**	**68.0673**

3.6 War Building - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0189	0.1700	0.1546	2.0000e-004		0.0127	0.0127		0.0117	0.0117			17.5922	5.6900e-003	0.0000	17.7344
Total	**0.0189**	**0.1700**	**0.1546**	**2.0000e-004**		**0.0127**	**0.0127**		**0.0117**	**0.0117**			**17.5922**	**5.6900e-003**	**0.0000**	**17.7344**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	2.8500e-003	0.0852	0.0231	2.0000e-004	4.9500e-003	4.0000e-004	5.3500e-003	1.4300e-003	3.8000e-004	1.8100e-003			19.5263	1.2400e-003	0.0000	19.5573
Worker	0.0242	0.0195	0.2157	5.9000e-004	0.0574	4.9000e-004	0.0579	0.0153	4.5000e-004	0.0157			53.5188	1.6900e-003	0.0000	53.5609
Total	**0.0270**	**0.1047**	**0.2388**	**7.9000e-004**	**0.0624**	**8.9000e-004**	**0.0633**	**0.0167**	**8.3000e-004**	**0.0175**			**73.0451**	**2.9300e-003**	**0.0000**	**73.1183**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.9400e-003	0.1127	0.1522	2.0000e-004		7.9000e-003	7.9000e-003		7.9000e-003	7.9000e-003			17.5921	5.6900e-003	0.0000	17.7344
Total	**4.9400e-003**	**0.1127**	**0.1522**	**2.0000e-004**		**7.9000e-003**	**7.9000e-003**		**7.9000e-003**	**7.9000e-003**			**17.5921**	**5.6900e-003**	**0.0000**	**17.7344**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	2.8500e-003	0.0852	0.0231	2.0000e-004	4.9500e-003	4.0000e-004	5.3500e-003	1.4300e-003	3.8000e-004	1.8100e-003			19.5263	1.2400e-003	0.0000	19.5573
Worker	0.0242	0.0195	0.2157	5.9000e-004	0.0574	4.9000e-004	0.0579	0.0153	4.5000e-004	0.0157			53.5188	1.6900e-003	0.0000	53.5609
Total	**0.0270**	**0.1047**	**0.2388**	**7.9000e-004**	**0.0624**	**8.9000e-004**	**0.0633**	**0.0167**	**8.3000e-004**	**0.0175**			**73.0451**	**2.9300e-003**	**0.0000**	**73.1183**

3.6 War Building - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0169	0.1539	0.1524	2.0000e-004		0.0109	0.0109		0.0101	0.0101			17.5250	5.6700e-003	0.0000	17.6667
Total	**0.0169**	**0.1539**	**0.1524**	**2.0000e-004**		**0.0109**	**0.0109**		**0.0101**	**0.0101**			**17.5250**	**5.6700e-003**	**0.0000**	**17.6667**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	2.4300e-003	0.0773	0.0210	2.0000e-004	4.9300e-003	1.6000e-004	5.0900e-003	1.4200e-003	1.5000e-004	1.5700e-003			19.3007	1.1800e-003	0.0000	19.3303
Worker	0.0225	0.0175	0.1974	5.7000e-004	0.0572	4.7000e-004	0.0577	0.0152	4.3000e-004	0.0156			51.6215	1.5200e-003	0.0000	51.6595
Total	**0.0249**	**0.0948**	**0.2184**	**7.7000e-004**	**0.0621**	**6.3000e-004**	**0.0628**	**0.0166**	**5.8000e-004**	**0.0172**			**70.9222**	**2.7000e-003**	**0.0000**	**70.9897**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.9200e-003	0.1123	0.1516	2.0000e-004		7.8700e-003	7.8700e-003		7.8700e-003	7.8700e-003			17.5250	5.6700e-003	0.0000	17.6667
Total	**4.9200e-003**	**0.1123**	**0.1516**	**2.0000e-004**		**7.8700e-003**	**7.8700e-003**		**7.8700e-003**	**7.8700e-003**			**17.5250**	**5.6700e-003**	**0.0000**	**17.6667**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	2.4300e-003	0.0773	0.0210	2.0000e-004	4.9300e-003	1.6000e-004	5.0900e-003	1.4200e-003	1.5000e-004	1.5700e-003			19.3007	1.1800e-003	0.0000	19.3303
Worker	0.0225	0.0175	0.1974	5.7000e-004	0.0572	4.7000e-004	0.0577	0.0152	4.3000e-004	0.0156			51.6215	1.5200e-003	0.0000	51.6595
Total	**0.0249**	**0.0948**	**0.2184**	**7.7000e-004**	**0.0621**	**6.3000e-004**	**0.0628**	**0.0166**	**5.8000e-004**	**0.0172**			**70.9222**	**2.7000e-003**	**0.0000**	**70.9897**

3.7 L15-UNEX Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0377	0.2626	0.3126	5.1000e-004		0.0162	0.0162		0.0162	0.0162			43.9160	3.0100e-003	0.0000	43.9913
Total	**0.0377**	**0.2626**	**0.3126**	**5.1000e-004**		**0.0162**	**0.0162**		**0.0162**	**0.0162**			**43.9160**	**3.0100e-003**	**0.0000**	**43.9913**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	0.0187	0.0146	0.1642	4.8000e-004	0.0476	3.9000e-004	0.0480	0.0126	3.6000e-004	0.0130			42.9487	1.2600e-003	0.0000	42.9803
Total	**0.0187**	**0.0146**	**0.1642**	**4.8000e-004**	**0.0476**	**3.9000e-004**	**0.0480**	**0.0126**	**3.6000e-004**	**0.0130**			**42.9487**	**1.2600e-003**	**0.0000**	**42.9803**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.2334	0.3152	5.1000e-004		0.0164	0.0164		0.0164	0.0164			43.9159	3.0100e-003	0.0000	43.9913
Total	**0.0102**	**0.2334**	**0.3152**	**5.1000e-004**		**0.0164**	**0.0164**		**0.0164**	**0.0164**			**43.9159**	**3.0100e-003**	**0.0000**	**43.9913**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	0.0187	0.0146	0.1642	4.8000e-004	0.0476	3.9000e-004	0.0480	0.0126	3.6000e-004	0.0130			42.9487	1.2600e-003	0.0000	42.9803
Total	**0.0187**	**0.0146**	**0.1642**	**4.8000e-004**	**0.0476**	**3.9000e-004**	**0.0480**	**0.0126**	**3.6000e-004**	**0.0130**			**42.9487**	**1.2600e-003**	**0.0000**	**42.9803**

3.8 All paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0144	0.1486	0.1685	2.6000e-004		7.7900e-003	7.7900e-003		7.1700e-003	7.1700e-003			23.0270	7.4500e-003	0.0000	23.2132
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0144**	**0.1486**	**0.1685**	**2.6000e-004**		**7.7900e-003**	**7.7900e-003**		**7.1700e-003**	**7.1700e-003**			**23.0270**	**7.4500e-003**	**0.0000**	**23.2132**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.2700e-003	6.2000e-004	1.0000e-005	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	5.0000e-005			0.5669	3.0000e-005	0.0000	0.5678
Worker	7.4000e-004	5.8000e-004	6.5200e-003	2.0000e-005	1.8900e-003	2.0000e-005	1.9100e-003	5.0000e-004	1.0000e-005	5.2000e-004			1.7059	5.0000e-005	0.0000	1.7071
Total	**8.1000e-004**	**2.8500e-003**	**7.1400e-003**	**3.0000e-005**	**2.0300e-003**	**2.0000e-005**	**2.0600e-003**	**5.4000e-004**	**1.0000e-005**	**5.7000e-004**			**2.2728**	**8.0000e-005**	**0.0000**	**2.2750**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.4500e-003	0.1299	0.1989	2.6000e-004		7.0100e-003	7.0100e-003		7.0100e-003	7.0100e-003			23.0270	7.4500e-003	0.0000	23.2132
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**6.4500e-003**	**0.1299**	**0.1989**	**2.6000e-004**		**7.0100e-003**	**7.0100e-003**		**7.0100e-003**	**7.0100e-003**			**23.0270**	**7.4500e-003**	**0.0000**	**23.2132**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.2700e-003	6.2000e-004	1.0000e-005	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	5.0000e-005			0.5669	3.0000e-005	0.0000	0.5678
Worker	7.4000e-004	5.8000e-004	6.5200e-003	2.0000e-005	1.8900e-003	2.0000e-005	1.9100e-003	5.0000e-004	1.0000e-005	5.2000e-004			1.7059	5.0000e-005	0.0000	1.7071
Total	**8.1000e-004**	**2.8500e-003**	**7.1400e-003**	**3.0000e-005**	**2.0300e-003**	**2.0000e-005**	**2.0600e-003**	**5.4000e-004**	**1.0000e-005**	**5.7000e-004**			**2.2728**	**8.0000e-005**	**0.0000**	**2.2750**

3.9 Warren Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	2.8600e-003	0.0197	0.0254	4.0000e-005		1.1400e-003	1.1400e-003		1.1400e-003	1.1400e-003			3.5746	2.3000e-004	0.0000	3.5804
Total	**2.8600e-003**	**0.0197**	**0.0254**	**4.0000e-005**		**1.1400e-003**	**1.1400e-003**		**1.1400e-003**	**1.1400e-003**			**3.5746**	**2.3000e-004**	**0.0000**	**3.5804**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.5000e-004	2.9300e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004			0.8015	2.0000e-005	0.0000	0.8020
Total	**3.4000e-004**	**2.5000e-004**	**2.9300e-003**	**1.0000e-005**	**9.2000e-004**	**1.0000e-005**	**9.3000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**			**0.8015**	**2.0000e-005**	**0.0000**	**0.8020**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	8.3000e-004	0.0190	0.0257	4.0000e-005		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003			3.5746	2.3000e-004	0.0000	3.5804
Total	**8.3000e-004**	**0.0190**	**0.0257**	**4.0000e-005**		**1.3300e-003**	**1.3300e-003**		**1.3300e-003**	**1.3300e-003**			**3.5746**	**2.3000e-004**	**0.0000**	**3.5804**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.5000e-004	2.9300e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004			0.8015	2.0000e-005	0.0000	0.8020
Total	**3.4000e-004**	**2.5000e-004**	**2.9300e-003**	**1.0000e-005**	**9.2000e-004**	**1.0000e-005**	**9.3000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**			**0.8015**	**2.0000e-005**	**0.0000**	**0.8020**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1410	0.6711	1.9340	7.9100e-003	0.3087	6.0200e-003	0.3147	0.0919	5.6000e-003	0.0975			732.2426	0.0340	0.0000	733.0917
Unmitigated	0.1410	0.6711	1.9340	7.9100e-003	0.3087	6.0200e-003	0.3147	0.0919	5.6000e-003	0.0975			732.2426	0.0340	0.0000	733.0917

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	103.08	51.54	35.30	293,981	293,981
Apartments High Rise	14.60	7.30	5.00	41,640	41,640
Apartments High Rise	102.20	51.10	35.00	291,483	291,483
Total	219.88	109.94	75.30	627,105	627,105

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841
Apartments High Rise	0.544880	0.044491	0.207704	0.117752	0.014693	0.006272	0.020732	0.032141	0.002572	0.001984	0.005239	0.000700	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000			1,450.7779	0.0409	8.4600e-003	1,454.3230
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000			1,479.6767	0.0417	8.6300e-003	1,483.2924
NaturalGas Mitigated	0.0344	0.2941	0.1252	1.8800e-003		0.0238	0.0238		0.0238	0.0238			340.6088	6.5300e-003	6.2400e-003	342.6329
NaturalGas Unmitigated	0.0453	0.3872	0.1648	2.4700e-003		0.0313	0.0313		0.0313	0.0313			448.4381	8.6000e-003	8.2200e-003	451.1029

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	3.90597e+006	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146			208.4374	4.0000e-003	3.8200e-003	209.6760
Apartments High Rise	3.93945e+006	0.0212	0.1815	0.0772	1.1600e-003		0.0147	0.0147		0.0147	0.0147			210.2240	4.0300e-003	3.8500e-003	211.4732
Apartments High Rise	557996	3.0100e-003	0.0257	0.0109	1.6000e-004		2.0800e-003	2.0800e-003		2.0800e-003	2.0800e-003			29.7768	5.7000e-004	5.5000e-004	29.9537
Total		**0.0453**	**0.3872**	**0.1648**	**2.4700e-003**		**0.0313**	**0.0313**		**0.0313**	**0.0313**			**448.4381**	**8.6000e-003**	**8.2200e-003**	**451.1029**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.96676e+006	0.0160	0.1367	0.0582	8.7000e-004		0.0111	0.0111		0.0111	0.0111			158.3175	3.0300e-003	2.9000e-003	159.2583
Apartments High Rise	2.99219e+006	0.0161	0.1379	0.0587	8.8000e-004		0.0112	0.0112		0.0112	0.0112			159.6745	3.0600e-003	2.9300e-003	160.6234
Apartments High Rise	423823	2.2900e-003	0.0195	8.3100e-003	1.2000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003			22.6168	4.3000e-004	4.1000e-004	22.7512
Total		**0.0344**	**0.2941**	**0.1252**	**1.8700e-003**		**0.0238**	**0.0238**		**0.0238**	**0.0238**			**340.6088**	**6.5200e-003**	**6.2400e-003**	**342.6329**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.47439e+006	687.7647	0.0194	4.0100e-003	689.4453
Apartments High Rise	1.48703e+006	693.6598	0.0196	4.0500e-003	695.3549
Apartments High Rise	210627	98.2521	2.7700e-003	5.7000e-004	98.4922
Total		**1,479.6767**	**0.0417**	**8.6300e-003**	**1,483.2924**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.44559e+006	674.3323	0.0190	3.9300e-003	675.9801
Apartments High Rise	1.45798e+006	680.1123	0.0192	3.9700e-003	681.7743
Apartments High Rise	206513	96.3332	2.7200e-003	5.6000e-004	96.5686
Total		**1,450.7779**	**0.0409**	**8.4600e-003**	**1,454.3230**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.1126	0.0894	7.7581	4.1000e-004		0.0431	0.0431		0.0431	0.0431			12.6847	0.0122	0.0000	12.9884
Unmitigated	3.1126	0.0894	7.7581	4.1000e-004		0.0431	0.0431		0.0431	0.0431			12.6847	0.0122	0.0000	12.9884

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1587					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	2.7210					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.2329	0.0894	7.7581	4.1000e-004		0.0431	0.0431		0.0431	0.0431			12.6847	0.0122	0.0000	12.9884
Total	**3.1126**	**0.0894**	**7.7581**	**4.1000e-004**		**0.0431**	**0.0431**		**0.0431**	**0.0431**			**12.6847**	**0.0122**	**0.0000**	**12.9884**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1587					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	2.7210					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.2329	0.0894	7.7581	4.1000e-004		0.0431	0.0431		0.0431	0.0431			12.6847	0.0122	0.0000	12.9884
Total	**3.1126**	**0.0894**	**7.7581**	**4.1000e-004**		**0.0431**	**0.0431**		**0.0431**	**0.0431**			**12.6847**	**0.0122**	**0.0000**	**12.9884**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	468.7149	2.4023	0.0590	546.3608
Unmitigated	468.7149	2.4023	0.0590	546.3608

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	73.3374 / 0	468.7149	2.4023	0.0590	546.3608
Total		**468.7149**	**2.4023**	**0.0590**	**546.3608**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	73.3374 / 0	468.7149	2.4023	0.0590	546.3608
Total		**468.7149**	**2.4023**	**0.0590**	**546.3608**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	37.9013	2.2399	0.0000	93.8988
Unmitigated	126.3375	7.4663	0.0000	312.9959

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	622.38	126.3375	7.4663	0.0000	312.9959
Total		**126.3375**	**7.4663**	**0.0000**	**312.9959**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	186.714	37.9013	2.2399	0.0000	93.8988
Total		**37.9013**	**2.2399**	**0.0000**	**93.8988**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	6	650	0.73	Diesel
Emergency Generator	1	0.5	6	750	0.73	Diesel
Emergency Generator	1	0.5	6	1250	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (600 - 750 HP)	3.2000e-003	8.9400e-003	8.1600e-003	2.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004			1.4851	2.1000e-004	0.0000	1.4903
Emergency Generator - Diesel (750 - 9999 HP)	9.8500e-003	0.0440	0.0251	5.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003			4.5696	6.4000e-004	0.0000	4.5856
Total	**0.0131**	**0.0530**	**0.0333**	**7.0000e-005**		**1.9200e-003**	**1.9200e-003**		**1.9200e-003**	**1.9200e-003**			**6.0547**	**8.5000e-004**	**0.0000**	**6.0759**

11.0 Vegetation

Appendix D

Tree Survey Data

Coastal California Gnatcatcher Focused Survey Report

LOT 15 SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
1	silver dollar gum	*Eucalyptus polyanthemos*	1	28.5	x	60	65	4	4
2	silver dollar gum	*Eucalyptus polyanthemos*	1	25.2	x	50	45	3	3
3	silver dollar gum	*Eucalyptus polyanthemos*	4	7.1	6.4	45	35	3	3
4	silver dollar gum	*Eucalyptus polyanthemos*	4	9.7	7.6	55	35	3	3
5	silver dollar gum	*Eucalyptus polyanthemos*	1	21.1	x	75	60	4	3
6	lemon-scented gum	*Corymbia citriodora*	3	11.2	7.6	60	45	3	3
7	Aleppo pine	*Pinus halepensis*	1	30.2	x	65	60	4	3
8	western sycamore	*Platanus racemosa*	1	12.3	x	40	30	3	3
9	Aleppo pine	*Pinus halepensis*	1	13.6	x	65	40	4	3
10	South African coral tree	*Erythrina caffra*	7	19.1	14.3	50	45	4	3
11	Italian stone pine	*Pinus pinea*	1	26.1	x	30	40	3	1
12	Canary Island pine	*Pinus caneriensis*	1	17.2	x	50	30	3	3
13	Aleppo pine	*Pinus halepensis*	1	16.5	x	40	30	2	2
14	Aleppo pine	*Pinus halepensis*	1	15.4	x	55	35	3	3
15	Aleppo pine	*Pinus halepensis*	1	25.3	x	65	40	4	3
16	toyon	*Heteromeles arbutifolia*	5	7.6	6.6	35	30	4	3
17	Aleppo pine	*Pinus halepensis*	1	15.2	x	20	50	3	1
18	lemon-scented gum	*Corymbia citriodora*	1	14.8	x	80	60	4	3
19	lemon-scented gum	*Corymbia citriodora*	1	17.4	x	65	60	4	3
20	coast live oak	*Quercus agrifolia*	1	4.6	x	30	20	4	3
21	lemon-scented gum	*Corymbia citriodora*	1	12.4	x	60	50	4	3
22	coast live oak	*Quercus agrifolia*	3	6.1	6	35	25	4	3
23	coast live oak	*Quercus agrifolia*	1	11.1	x	40	35	4	3
24	coast live oak	*Quercus agrifolia*	1	4.8	x	25	20	3	3
25	coast live oak	*Quercus agrifolia*	1	11.2	x	40	30	4	3
26	western sycamore	*Platanus racemosa*	1	24.5	x	80	45	4	4
27	toyon	*Heteromeles arbutifolia*	6	3.2	3.1	20	30	4	3
28	Indian laurel fig	*Ficus microcarpa*	9	32.4	30.6	70	80	4	3
29	Aleppo pine	*Pinus halepensis*	1	32.8	x	35	45	3	2
30	Aleppo pine	*Pinus halepensis*	1	32.3	x	70	65	4	3
31	Aleppo pine	*Pinus halepensis*	1	19.6	x	60	50	3	2

LOT 15 SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
32	Aleppo pine	*Pinus halepensis*	1	15.6	x	45	30	3	3
33	Canary Island pine	*Pinus caneriensis*	1	15	x	60	35	4	3
34	Canary Island pine	*Pinus caneriensis*	1	17	x	65	30	4	3
35	Aleppo pine	*Pinus halepensis*	1	24.8	x	65	55	3	2
36	Canary Island pine	*Pinus caneriensis*	1	18	x	65	35	3	3
37	Canary Island pine	*Pinus caneriensis*	1	19.2	x	65	30	3	3
38	sugar gum	*Eucalyptus cladocalyx*	1	21.7	x	65	55	3	3
39	Aleppo pine	*Pinus halepensis*	1	12.3	x	45	25	3	3
40	Aleppo pine	*Pinus halepensis*	1	15.3	x	50	35	4	3
41	Aleppo pine	*Pinus halepensis*	1	14.9	x	45	30	4	3
42	Aleppo pine	*Pinus halepensis*	1	16.3	x	50	35	4	3
43	Canary Island pine	*Pinus caneriensis*	1	14.5	x	60	15	3	3
44	Chinese elm	*Ulmus parvifolia*	2	12.3	7.1	40	50	4	3
45	Chinese elm	*Ulmus parvifolia*	7	13.6	10	45	60	4	2
46	blue gum	*Eucalyptus globulus*	6	14.5	13.2	55	35	3	3
47	coast live oak	*Quercus agrifolia*	1	6.4	x	45	30	4	3
48	Chinese elm	*Ulmus parvifolia*	1	14.2	x	40	50	4	4
49	coast live oak	*Quercus agrifolia*	1	25.3	x	40	65	4	3
50	coast live oak	*Quercus agrifolia*	1	17.5	x	40	50	4	3
51	western sycamore	*Platanus racemosa*	1	20.4	x	60	60	2	2
52	coast live oak	*Quercus agrifolia*	1	8.7	x	35	25	4	3
53	coast live oak	*Quercus agrifolia*	1	11.7	x	50	30	4	3
54	coast live oak	*Quercus agrifolia*	1	16.5	x	35	70	3	2
55	camphor	*Cinnamomum camphora*	2	7.1	5.3	55	30	4	2
56	Canary Island pine	*Pinus caneriensis*	1	15.6	x	60	25	3	2
57	western sycamore	*Platanus racemosa*	1	9.3	x	50	40	3	2
58	western sycamore	*Platanus racemosa*	1	9.5	x	50	40	3	2
59	western sycamore	*Platanus racemosa*	1	4.1	x	30	25	3	3
60	western sycamore	*Platanus racemosa*	1	7.6	x	45	40	3	2
61	Chinese elm	*Ulmus parvifolia*	2	11.2	10.5	50	45	4	3
62	western sycamore	*Platanus racemosa*	1	10.7	x	50	30	2	2

LOT 15 SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
63	Canary Island pine	*Pinus caneriensis*	1	12.5	x	65	30	4	4
64	Canary Island pine	*Pinus caneriensis*	1	15.9	x	70	40	4	4
65	Canary Island pine	*Pinus caneriensis*	1	18.8	x	80	30	4	4
66	Canary Island pine	*Pinus caneriensis*	1	13.9	x	55	15	4	4
67	Canary Island pine	*Pinus caneriensis*	1	12	x	55	20	4	4
68	Canary Island date palm	*Phoenix canariensis*	1	32.1	x	35	40	3	3
69	western sycamore	*Platanus racemosa*	3	3.5	3.1	30	30	3	3
70	western sycamore	*Platanus racemosa*	3	3.8	3.4	30	35	3	3
71	western sycamore	*Platanus racemosa*	3	5.5	3.5	35	30	3	3
72	blue gum	*Eucalyptus globulus*	1	16.2	x	80	55	3	3
73	blue gum	*Eucalyptus globulus*	1	14	x	85	50	3	3
74	blue gum	*Eucalyptus globulus*	1	14.6	x	75	40	3	3
75	blue gum	*Eucalyptus globulus*	2	29.3	26.4	75	80	3	3
76	Mexican fan palm	*Washingtonia robusta*	1	17.7	x	40	10	4	3
77	Canary Island pine	*Pinus caneriensis*	1	18.9	x	65	25	4	3
78	Brazilian peppertree	*Schinus terebinthifolius*	3	7.8	5.4	40	25	4	4
79	Canary Island pine	*Pinus caneriensis*	1	15.1	x	55	25	4	4
80	Brazilian peppertree	*Schinus terebinthifolius*	1	17	x	35	30	4	4
81	silver dollar gum	*Eucalyptus polyanthemos*	1	22.8	x	70	45	4	4
82	silver dollar gum	*Eucalyptus polyanthemos*	1	15.9	x	80	45	4	4
83	silver dollar gum	*Eucalyptus polyanthemos*	1	19.1	x	80	35	4	4
84	silver dollar gum	*Eucalyptus polyanthemos*	2	19.3	13.3	70	55	4	4
85	Canary Island pine	*Pinus caneriensis*	1	17.1	x	65	20	4	4
86	Canary Island pine	*Pinus caneriensis*	1	15	x	65	15	4	4
87	Canary Island pine	*Pinus caneriensis*	1	17.5	x	65	15	4	4
88	silver dollar gum	*Eucalyptus polyanthemos*	1	20.6	x	60	40	3	3
89	Canary Island pine	*Pinus caneriensis*	1	13.4	x	65	20	4	4
90	Canary Island pine	*Pinus caneriensis*	1	15.6	x	70	25	3	3
91	Canary Island pine	*Pinus caneriensis*	1	12.1	x	55	20	4	4
92	silver dollar gum	*Eucalyptus polyanthemos*	1	14	x	50	35	4	3
93	Canary Island pine	*Pinus caneriensis*	1	16.5	x	70	35	4	4

LOT 15 SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
94	Canary Island pine	*Pinus caneriensis*	1	16.7	x	70	40	4	4
95	rusty-leaf fig	*Ficus rubiginosa*	1	13.4	x	25	30	4	3
96	blue gum	*Eucalyptus globulus*	2	26.1	17.4	70	50	4	4
97	blue gum	*Eucalyptus globulus*	2	17.2	16.8	70	45	4	4
98	blue gum	*Eucalyptus globulus*	1	15.5	x	70	35	4	4
99	blue gum	*Eucalyptus globulus*	1	20.9	x	70	35	4	4
100	blue gum	*Eucalyptus globulus*	1	15.3	x	65	30	4	4
101	blue gum	*Eucalyptus globulus*	1	16.5	x	70	40	4	3
102	blue gum	*Eucalyptus globulus*	1	28.5	x	70	50	4	3
103	Canary Island pine	*Pinus caneriensis*	1	12.1	x	65	25	4	4
104	Canary Island pine	*Pinus caneriensis*	1	14.7	x	65	25	4	4
105	Canary Island pine	*Pinus caneriensis*	1	16	x	55	25	4	4
106	Canary Island pine	*Pinus caneriensis*	1	13.8	x	55	25	4	4
107	Aleppo pine	*Pinus halepensis*	1	30.5	x	65	50	4	4
108	Aleppo pine	*Pinus halepensis*	1	15.7	x	55	30	4	4
109	Aleppo pine	*Pinus halepensis*	1	32.1	x	65	55	4	3
110	Aleppo pine	*Pinus halepensis*	1	18.2	x	65	30	4	4
111	rusty-leaf fig	*Ficus rubiginosa*	1	30	x	45	35	4	3
112	Canary Island pine	*Pinus caneriensis*	1	15.5	x	60	15	4	4
113	Canary Island pine	*Pinus caneriensis*	1	15.5	x	60	15	4	3

Aesthetics/Health Rating: 1=Very Poor, 2=Poor, 3=Fair, 4=Good, and 5=Excellent

WARREN HALL SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
1	western sycamore	*Platanus racemosa*	1	14.7	x	40	25	4	4
2	western sycamore	*Platanus racemosa*	1	12.9	x	55	25	4	4
3	western sycamore	*Platanus racemosa*	1	12	x	55	25	4	4
4	western sycamore	*Platanus racemosa*	1	16.6	x	55	35	4	4
5	laurel leaf cocculus	*Cocculus laurifolius*	4	12.6	3.5	35	25	4	3
6	Indian laurel fig	*Ficus microcarpa*	1	36.8	x	50	60	3	2
7	western sycamore	*Platanus racemosa*	1	8.7	x	30	25	4	4
8	western sycamore	*Platanus racemosa*	1	5.6	x	30	25	4	4
9	western sycamore	*Platanus racemosa*	1	12.7	x	45	30	4	4
10	western sycamore	*Platanus racemosa*	1	13.1	x	45	30	4	4
11	western sycamore	*Platanus racemosa*	1	11.4	x	35	30	4	4
12	western sycamore	*Platanus racemosa*	1	7.5	x	30	25	4	4
13	western sycamore	*Platanus racemosa*	1	7.9	x	30	25	4	4
14	western sycamore	*Platanus racemosa*	1	11.7	x	35	30	4	4
15	western sycamore	*Platanus racemosa*	1	10.6	x	35	30	4	4
16	western sycamore	*Platanus racemosa*	1	11.8	x	35	30	4	4
17	western sycamore	*Platanus racemosa*	2	9.3	8.4	40	35	4	4
18	Indian laurel fig	*Ficus microcarpa*	1	21.1	x	50	30	4	3
19	African fern pine	*Afrocarpus falcatus*	1	24	x	70	45	5	5
20	Aleppo pine	*Pinus halepensis*	1	38.2	x	75	45	4	4
21	Aleppo pine	*Pinus halepensis*	1	38.1	x	65	45	4	3
22	Aleppo pine	*Pinus halepensis*	1	35.6	x	65	35	4	4
23	Canary Island pine	*Pinus caneriensis*	1	32.1	x	85	35	4	4
24	Canary Island pine	*Pinus caneriensis*	1	34.4	x	85	35	4	4
25	Canary Island pine	*Pinus caneriensis*	1	28.1	x	75	30	4	4
26	Indian laurel fig	*Ficus microcarpa*	2	18.2	15.6	35	30	4	3
27	Indian laurel fig	*Ficus microcarpa*	6	13.3	12.5	35	25	4	3
28	Indian laurel fig	*Ficus microcarpa*	6	7.8	7.7	35	25	4	3
29	Indian laurel fig	*Ficus microcarpa*	5	12.2	11.5	35	25	4	3

WARREN HALL SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
30	Indian laurel fig	*Ficus microcarpa*	5	14.2	13.9	35	25	4	3
31	Indian laurel fig	*Ficus microcarpa*	2	12.8	12.4	35	25	4	3
32	Indian laurel fig	*Ficus microcarpa*	3	17.5	14.6	35	30	4	3
Aesthetics/Health Rating: 1=Very Poor, 2=Poor, 3=Fair, 4=Good, and 5=Excellent									

UNEX SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
1	sugar gum	*Eucalyptus cladocalyx*	1	29.7	x	60	45	4	4
2	Aleppo pine	*Pinus Halepensis*	1	22.3	x	30	50	4	3
3	Indian laurel fig	*Ficus microcarpa*	1	26.1	x	35	30	4	4
4	Indian laurel fig	*Ficus microcarpa*	1	23.8	x	35	30	4	4
5	Indian laurel fig	*Ficus microcarpa*	1	27	x	35	30	4	4
6	common coral tree	*Erythrina lysistemon*	1	23.7	x	25	25	3	3
7	African fern pine	*Afrocarpus falcatus*	1	14.6	x	40	25	5	4
8	rusty-leaf fig	*Ficus rubiginosa*	1	22.7	x	45	40	3	4
9	South African coral tree	*Erythrina caffra*	3	16.5	14	50	45	4	4
10	South African coral tree	*Erythrina caffra*	1	26.5	x	50	35	4	4
11	South African coral tree	*Erythrina caffra*	4	17.3	10.6	50	40	4	4
12	blue gum	*Eucalyptus globulus*	1	26.8	x	65	45	4	4
13	blue gum	*Eucalyptus globulus*	1	24.3	x	75	50	4	4
14	blue gum	*Eucalyptus globulus*	1	26.1	x	65	45	4	4
15	blue gum	*Eucalyptus globulus*	1	37.4	x	80	60	4	4
16	blue gum	*Eucalyptus globulus*	1	21.2	x	70	35	4	4
17	blue gum	*Eucalyptus globulus*	1	21.4	x	75	45	4	4
18	Aleppo pine	*Pinus halepensis*	1	14.6	x	55	20	3	3
19	Aleppo pine	*Pinus halepensis*	1	22.1	x	55	35	4	3
20	Aleppo pine	*Pinus halepensis*	1	15.4	x	45	25	3	3
21	Aleppo pine	*Pinus halepensis*	1	13.6	x	45	30	3	3
22	Aleppo pine	*Pinus halepensis*	1	14.2	x	45	30	4	3
23	Aleppo pine	*Pinus halepensis*	1	19	x	55	30	4	4
24	Aleppo pine	*Pinus halepensis*	1	18.9	x	55	25	4	3
25	Aleppo pine	*Pinus halepensis*	1	16.4	x	50	25	4	3
26	Aleppo pine	*Pinus halepensis*	1	13.1	x	50	25	4	3
27	Aleppo pine	*Pinus halepensis*	1	26.9	x	70	40	4	3
28	Aleppo pine	*Pinus halepensis*	1	16	x	55	25	4	3
29	Aleppo pine	*Pinus halepensis*	1	19.4	x	60	30	4	3
30	Aleppo pine	*Pinus halepensis*	2	17.4	13.6	55	35	4	3
31	Aleppo pine	*Pinus halepensis*	1	12.4	x	50	25	3	3

UNEX SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
32	Aleppo pine	*Pinus halepensis*	1	23.7	x	65	35	4	3
33	Aleppo pine	*Pinus halepensis*	1	17.2	x	55	30	4	3
34	punktree	*Melaleuca quinquenervia*	1	14.2	x	35	15	4	2
Aesthetics/Health Rating: 1=Very Poor, 2=Poor, 3=Fair, 4=Good, and 5=Excellent									

BRADLEY SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
1	Canary Island pine	*Pinus canariensis*	1	14.3	x	45	15	4	3
2	Canary Island pine	*Pinus canariensis*	1	18.6	x	50	15	4	3
3	Canary Island pine	*Pinus canariensis*	1	19.6	x	65	20	4	3
4	Canary Island pine	*Pinus canariensis*	1	16.8	x	55	25	4	3
5	western sycamore	*Platanus racemosa*	1	15.2	x	55	25	4	3
6	western sycamore	*Platanus racemosa*	1	9.6	x	40	30	4	4
7	western sycamore	*Platanus racemosa*	1	13.1	x	50	30	4	4
8	western sycamore	*Platanus racemosa*	1	8.6	x	25	20	4	4
9	western sycamore	*Platanus racemosa*	1	11.5	x	30	20	4	4
10	western sycamore	*Platanus racemosa*	1	11	x	35	30	4	4
11	western sycamore	*Platanus racemosa*	1	17.8	x	75	50	4	4
12	Canary Island pine	*Pinus canariensis*	1	13.7	x	50	20	4	4
13	Canary Island pine	*Pinus canariensis*	1	18.4	x	60	30	4	4
14	Canary Island pine	*Pinus canariensis*	1	15.9	x	65	25	4	4
15	western sycamore	*Platanus racemosa*	1	7.9	x	35	30	4	4
16	punktree	*Melaleuca quinquenervia*	2	7	6.7	20	15	4	3
17	punktree	*Melaleuca quinquenervia*	2	8	8	20	15	4	3
18	punktree	*Melaleuca quinquenervia*	5	7.8	6.5	20	20	4	3
19	Deodar cedar	*Cedrus deodara*	1	12.4	x	45	30	4	4
20	western sycamore	*Platanus racemosa*	1	7.8	x	30	20	5	4
21	western sycamore	*Platanus racemosa*	1	16.8	x	60	35	4	4
22	western sycamore	*Platanus racemosa*	1	12.2	x	50	25	4	4
23	western sycamore	*Platanus racemosa*	2	13.8	12.8	60	35	4	4
24	western sycamore	*Platanus racemosa*	2	17.9	14	55	40	4	4
25	western sycamore	*Platanus racemosa*	1	13.1	x	40	30	4	4
26	western sycamore	*Platanus racemosa*	2	18.8	20.4	60	45	4	4
27	western sycamore	*Platanus racemosa*	2	14.4	10.5	40	30	4	4
Aesthetics/Health Rating: 1=Very Poor, 2=Poor, 3=Fair, 4=Good, and 5=Excellent									

DRAKE STADIUM SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
1	western sycamore	*Platanus racemosa*	1	6.7	x	35	25	4	4
2	western sycamore	*Platanus racemosa*	1	5.3	x	25	25	4	4
3	western sycamore	*Platanus racemosa*	1	10.4	x	40	30	4	4
4	blue gum	*Eucalyptus globulus*	1	16.4	x	65	40	4	4
5	blue gum	*Eucalyptus globulus*	1	16.1	x	60	45	4	4
6	blue gum	*Eucalyptus globulus*	1	14.5	x	55	40	4	4
7	blue gum	*Eucalyptus globulus*	1	26	x	80	50	4	4
8	blue gum	*Eucalyptus globulus*	1	28.7	x	80	50	4	4
9	Aleppo pine	*Pinus halepensis*	1	20.2	x	75	30	4	3
10	Aleppo pine	*Pinus halepensis*	1	14.1	x	70	20	4	3
11	Aleppo pine	*Pinus halepensis*	1	21.4	x	65	35	4	3
12	Aleppo pine	*Pinus halepensis*	1	17.2	x	65	30	4	3
13	Aleppo pine	*Pinus halepensis*	1	21.2	x	30	45	4	3
14	blue gum	*Eucalyptus globulus*	1	20.9	x	70	45	4	4
15	blue gum	*Eucalyptus globulus*	1	13.6	x	60	40	4	4
16	blue gum	*Eucalyptus globulus*	1	29.1	x	75	50	4	4
17	Aleppo pine	*Pinus halepensis*	1	32.8	x	80	55	4	3
18	Aleppo pine	*Pinus halepensis*	1	31.6	x	80	55	4	3
19	blue gum	*Eucalyptus globulus*	1	18.9	x	55	40	4	4
20	blue gum	*Eucalyptus globulus*	1	19.9	x	70	40	4	4
21	blue gum	*Eucalyptus globulus*	1	15.1	x	60	35	4	4
22	blue gum	*Eucalyptus globulus*	1	15.6	x	60	35	4	4
23	blue gum	*Eucalyptus globulus*	1	19.4	x	70	45	4	4
24	blue gum	*Eucalyptus globulus*	1	25.1	x	80	60	4	4
25	blue gum	*Eucalyptus globulus*	1	19.8	x	70	45	4	4
26	blue gum	*Eucalyptus globulus*	1	20.9	x	75	50	4	4
27	blue gum	*Eucalyptus globulus*	1	21.1	x	60	35	4	4
28	blue gum	*Eucalyptus globulus*	1	21.9	x	60	50	4	4
29	blue gum	*Eucalyptus globulus*	1	22.1	x	80	60	4	4

DRAKE STADIUM SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
30	Brazilian peppertree	*Schinus terebinthifolius*	1	17.1	x	30	40	4	3
31	blue gum	*Eucalyptus globulus*	2	8.1	6.1	40	40	4	4
32	blue gum	*Eucalyptus globulus*	1	21.4	x	70	50	4	4
33	Canary Island pine	*Pinus caneriensis*	1	19.1	x	85	20	4	3
34	Canary Island pine	*Pinus caneriensis*	1	22.6	x	85	25	4	4
35	Canary Island pine	*Pinus caneriensis*	1	21	x	85	20	4	4
36	blue gum	*Eucalyptus globulus*	1	26.2	x	85	60	4	4
37	blue gum	*Eucalyptus globulus*	1	21.9	x	60	45	4	4
38	blue gum	*Eucalyptus globulus*	1	22.9	x	75	40	4	4
39	blue gum	*Eucalyptus globulus*	1	24.3	x	80	45	4	4
40	Aleppo pine	*Pinus halepensis*	1	22.4	x	55	30	4	4
41	Aleppo pine	*Pinus halepensis*	1	25.8	x	55	35	4	4
42	Aleppo pine	*Pinus halepensis*	1	25.9	x	55	40	4	3
43	blue gum	*Eucalyptus globulus*	1	25.1	x	75	55	3	3
44	blue gum	*Eucalyptus globulus*	1	22.1	x	70	45	3	3
45	blue gum	*Eucalyptus globulus*	1	23.8	x	75	55	3	3
46	Brazilian peppertree	*Schinus terebinthifolius*	4	7.7	6.4	35	45	4	3
47	Italian stone pine	*Pinus pinea*	1	36.6	x	50	55	4	3
48	Italian stone pine	*Pinus pinea*	1	18	x	35	50	3	3
49	Italian stone pine	*Pinus pinea*	1	28.5	x	50	50	4	3
50	Italian stone pine	*Pinus pinea*	1	34.7	x	45	50	4	3
51	Italian stone pine	*Pinus pinea*	1	23.5	x	50	55	4	3
52	Italian stone pine	*Pinus pinea*	1	30.9	x	40	40	4	3
53	Italian stone pine	*Pinus pinea*	1	35.9	x	50	45	4	4
54	Italian stone pine	*Pinus pinea*	1	28.7	x	50	50	4	3
55	Italian stone pine	*Pinus pinea*	1	24.6	x	50	40	4	4
56	Italian stone pine	*Pinus pinea*	1	27.6	x	45	40	4	3
57	Italian stone pine	*Pinus pinea*	1	24.7	x	45	35	4	3
58	Italian stone pine	*Pinus pinea*	1	23.2	x	40	40	4	3

DRAKE STADIUM SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
59	Italian stone pine	*Pinus pinea*	1	23.4	x	35	40	4	3
60	Italian stone pine	*Pinus pinea*	1	35.2	x	40	40	3	3
61	Italian stone pine	*Pinus pinea*	1	19.1	x	45	40	4	3
62	Italian stone pine	*Pinus pinea*	1	26.2	x	45	45	4	4
63	Italian stone pine	*Pinus pinea*	1	25.3	x	50	40	4	4
64	Italian stone pine	*Pinus pinea*	1	33.7	x	50	45	4	3
65	Italian stone pine	*Pinus pinea*	1	23.1	x	45	45	3	3
66	Italian stone pine	*Pinus pinea*	1	29.5	x	45	45	4	3
67	Italian stone pine	*Pinus pinea*	1	34.3	x	75	45	3	3
68	Italian stone pine	*Pinus pinea*	1	14.7	x	45	40	4	3
69	Italian stone pine	*Pinus pinea*	1	17.2	x	55	35	3	3
70	Italian stone pine	*Pinus pinea*	1	17.6	x	45	40	4	4
71	Italian stone pine	*Pinus pinea*	1	21.1	x	55	60	4	4
72	Aleppo pine	*Pinus halepensis*	1	20.1	x	70	35	4	4
73	blue gum	*Eucalyptus globulus*	1	17.8	x	70	40	4	4
74	blue gum	*Eucalyptus globulus*	1	16.5	x	75	35	4	4
75	blue gum	*Eucalyptus globulus*	1	13.1	x	70	35	4	4
76	blue gum	*Eucalyptus globulus*	1	20.1	x	75	35	4	4
77	Aleppo pine	*Pinus halepensis*	1	16.5	x	60	35	3	3
78	Aleppo pine	*Pinus halepensis*	1	25.4	x	75	65	4	4
79	blue gum	*Eucalyptus globulus*	1	24.3	x	80	50	4	4
80	blue gum	*Eucalyptus globulus*	1	16.6	x	75	40	4	4
81	blue gum	*Eucalyptus globulus*	1	24.3	x	80	55	4	4
82	blue gum	*Eucalyptus globulus*	1	17.7	x	80	45	4	4
83	blue gum	*Eucalyptus globulus*	1	16.5	x	80	40	4	3
84	toyon	*Heteromeles arbutifolia*	1	2.7	2.1	20	25	4	3
85	blue gum	*Eucalyptus globulus*	1	23.4	x	70	30	4	4
86	Aleppo pine	*Pinus halepensis*	1	22.3	x	75	30	4	3
87	blue gum	*Eucalyptus globulus*	1	19.6	x	75	50	4	3

DRAKE STADIUM SITE TREE DATA

Tree Tag #	Common Name	Scientific Name	# Main Trunks	D.B.H. (in)		Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating
				1st Trunk	2nd Trunk				
88	Aleppo pine	*Pinus halepensis*	1	21.1	x	65	45	4	3
89	blue gum	*Eucalyptus globulus*	1	25.1	x	80	45	4	4
90	blue gum	*Eucalyptus globulus*	1	14.8	x	80	40	4	4
91	blue gum	*Eucalyptus globulus*	1	15.2	x	80	35	4	4
92	blue gum	*Eucalyptus globulus*	1	14.4	x	75	30	4	4
93	blue gum	*Eucalyptus globulus*	1	22.6	x	80	55	4	3
94	blue gum	*Eucalyptus globulus*	1	28.1	x	75	40	4	3
Aesthetics/Health Rating: 1=Very Poor, 2=Poor, 3=Fair, 4=Good, and 5=Excellent									

PSOMAS

Balancing the Natural and Built Environment

July 7, 2017

Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

VIA EMAIL AND MAIL
stacey_love@fws.gov

Subject: Results of a Coastal California Gnatcatcher Survey for the University of California, Los Angeles Long Range Development Plan Amendment and Student Housing Projects, Los Angeles County, California

Dear Ms. Love:

This Letter Report presents the results of focused surveys for the coastal California gnatcatcher (*Polioptila californica californica*) at the University of California, Los Angeles (UCLA) for the Long Range Development Plan Amendment and Student Housing Projects. The purpose of the survey was to determine the presence or absence of the coastal California gnatcatcher in a small area of open space in the northwest portion of the campus, near Parking Lot 11 (hereinafter referred to as the "survey area"). Surveys were conducted by Biologists holding the necessary Federal Endangered Species Act (FESA) survey permit and according to protocol guidelines established by the U.S. Fish and Wildlife Service (USFWS).

SURVEY AREA LOCATION AND DESCRIPTION

The survey area is located within the UCLA campus in the Westwood community of the City of Los Angeles, in Los Angeles County, California (Exhibit 1). It is located in the foothills of the Santa Monica Mountains as shown on the U.S. Geological Survey (USGS) Beverly Hills 7.5-minute topographic quadrangle (Exhibit 2). Elevations in the survey area range from approximately 480–560 feet above mean sea level (msl). The survey area is located in the northwestern area of UCLA, east of Veteran Avenue, west of De Neve Drive, south of Sunset Boulevard, and north of Gayley Avenue. Surrounding land uses are institutional, residential, and transportation.

The survey area is an undeveloped parcel in the Northwest zone of the UCLA campus. Often referred to as "Sage Hill" on campus maps, this hillside area is generally bounded by Veteran Avenue and Parking Lot 11 (Exhibit 3). Vegetation types in the survey area generally consist of California sagebrush scrub, coast live oak woodland, grassland, and ornamental (Exhibit 4). California sagebrush scrub areas are dominated by California sagebrush (*Artemisia californica*) and laurel sumac (*Malosma laurina*). Areas with greater than 50 percent cover of grassland were mapped as California sagebrush scrub–grassland ecotones. The northern portion of the Northwest zone has a high percent cover of native grass (*Stipa* sp.) while the southern portion of the Northwest zone is comprised of non-native grasses such as brome grasses (*Bromus* spp.) and wild oat (*Avena* sp). A variety of other coastal sage scrub species also occurred scattered throughout the California sagebrush scrub vegetation types in lower densities including black sage (*Salvia mellifera*), white sage (*Salvia apiana*), California brittlebush (*Encelia californica*), giant wild-rye (*Leymus condensatus*), bush monkeyflower (*Mimulus aurantiacus*), coastal prickly-pear (*Opuntia littoralis*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Representative site photos are included in Attachment A.

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Species Background

The coastal California gnatcatcher is a federally Threatened species and a California Species of Special Concern. This species occurs in most of Baja California, Mexico's arid regions, but this subspecies is extremely localized in the United States, where it predominantly occurs in coastal regions of highly urbanized Los Angeles, Orange, Riverside, and San Diego Counties (Atwood 1992). In California, this subspecies is an obligate resident of coastal sage scrub vegetation types. The breeding season for the coastal California gnatcatcher ranges from late February to July. Nests are generally located in various materials in sagebrush about three feet above ground. Brood parasitism by brown-headed cowbirds (*Molothrus ater*) and loss of habitat to urban development have been cited as causes of coastal California gnatcatcher population decline (Unitt 1984; Atwood 1990).

Taxonomic studies indicate that the coastal California gnatcatcher consists of four subspecies that extend from southwestern California to southern Baja California, Mexico (Atwood and Lerman 2006; Mellink and Rea 1994). The coastal California gnatcatcher, the northernmost gnatcatcher subspecies, is restricted to lowland areas from central Ventura County through Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties to the Baja California, Mexico border (Atwood and Lerman 2006; Mellink and Rea 1994). Formerly, the coastal California gnatcatcher was common from the San Fernando Valley eastward along the base of the San Gabriel Mountains to Claremont (Atwood 1990). The coastal California gnatcatcher is now rare in the northern part of its range with only a handful of sightings from Santa Clarita to Tujunga Wash, though a small population persists near the City of Moorpark in Ventura County.

The coastal California gnatcatcher has been recorded from sea level to approximately 3,000 feet above msl (USFWS 2003); however, greater than 90 percent of gnatcatcher records are from between sea level and 820 feet above msl along the coast and between sea level and 1,800 feet above msl inland (Atwood and Bolsinger 1992). USFWS estimates regarding the population size of the coastal California gnatcatcher in Southern California have been about 3,000 pairs (Atwood and Bontrager 2001). In the *5-year Review: Summary and Evaluation* for the gnatcatcher, the USFWS states that a recent study (Winchell and Doherty 2008) estimated that there were approximately 1,324 gnatcatcher pairs over approximately 111,000 acres on public and quasi-public lands in Orange and San Diego Counties. Because the Winchell and Doherty study only covered a portion of the U.S. range (focusing on the coast and limited to one year), this study cannot extrapolate beyond the sampling region; however, the USFWS states that it is likely there are more gnatcatchers in the U.S. portion of the range than was suggested by earlier estimates (USFWS 2010).

The coastal California gnatcatcher typically occurs in coastal and inland sage scrub vegetation types. Sage scrub often occurs in a patchy distribution pattern throughout the range of the gnatcatcher. Coastal California gnatcatchers also use chaparral, grassland, and riparian habitats that are in proximity to sage scrub. These non-sage scrub habitats are used for dispersal and foraging (Atwood et al. 1998; Campbell et al. 1998; USFWS 2003). Availability of these non-sage scrub areas is essential during certain times of the year, particularly during drought conditions or for dispersal, foraging, or nesting (USFWS 2003).

In Los Angeles County, there are no populations of the coastal California gnatcatcher in the Santa Monica Mountains (Allen et al. 2016). The nearest known established populations of this species to the survey area are on the Palos Verdes Peninsula (approximately 35 kilometers [km] to the south) and the Montebello Hills (approximately 33 km to the east) (Atwood and Bontrager 2001). A California Natural Diversity Database (CNDDB) four-quad search (i.e., Inglewood, Venice, Hollywood, and Beverly Hills) encompassing the survey area shows just one 1980 sighting for the coastal California gnatcatcher in the Baldwin Hills (CDFW 2017). However, there have been several recent observations of this species in the

vicinity of the survey area including the Baldwin Hills (10 km to the southeast), Ballona Wetlands Ecological Reserve (about 12 km to the south), and the El Segundo Dunes (about 14 to 16 km to the south) (eBird 2017). At the latter location, the coastal California gnatcatcher nested successfully in 2013 (Walker 2013).

The USFWS published a Revised Final Rule designating critical habitat for the coastal California gnatcatcher in 2007 (USFWS 2007). This revised rule designates 197,303 acres of critical habitat in San Diego, Orange, Riverside, San Bernardino, Los Angeles, and Ventura Counties, California. The survey area is not located within the designated critical habitat area for this species.

Survey Methods

The USFWS's survey protocol for the coastal California gnatcatcher recommends six visits to all potentially occupied habitat areas for surveys conducted entirely within the breeding season, which extends from March 15 to June 30 (USFWS 1997a, 1997b). All visits must take place at least one week apart during the morning hours, and no more than 80 acres of suitable habitat may be surveyed per visit. Following the USFWS protocol for the species, Psomas Senior Biologist Brian Daniels (USFWS Permit No. TE821401-5) conducted the first four surveys on April 20, 27 and May 4, and 11, 2017, and Psomas Senior Biologist Stacie Tennant (USFWS Permit No. TE834489-5) conducted the last two surveys on May 18 and 25, 2017.

These surveys avoided weather conditions that were too cold (below 55 degrees Fahrenheit [°F]), too hot (above 95°F), or too windy (wind speed greater than 15 miles per hour) in order to meet the weather conditions under the USFWS survey protocol requirements for optimal gnatcatcher detection. Mr. Daniels and Ms. Tennant conducted the surveys by slowly walking through all appropriate habitats while listening and watching for gnatcatcher activity and by using a combination of taped recordings of gnatcatcher vocalizations and "pishing" sounds to elicit responses from any gnatcatchers present. The frequency of vocalization playback and "pishing" varied depending on conditions such as habitat patch size, topography in each area, and ambient noise conditions. All bird species detected during the surveys were recorded (Attachment B).

Survey Results

No coastal California gnatcatchers or special status species were observed during the surveys. A complete list of wildlife species observed during the surveys is included in Attachment B.

Psomas has appreciates the opportunity to assist with this survey. Please contact Amber Heredia at (714) 751-7373 if you have questions or comments.

Sincerely,

PSOMAS

Amber O Heredia

Amber O. Heredia
Senior Project Manager, Resource Management

I certify that the information in this survey report and in the enclosed exhibits fully and accurately presents my work.

Brian E. Daniels
(TE821401-5)

I certify that the information in this survey report and in the enclosed exhibits fully and accurately presents my work.

Stacie A. Tennat
(TE834489-5)

Attachments: Exhibits 1-3
Appendix A – Site Photos
Appendix B – Wildlife Compendium

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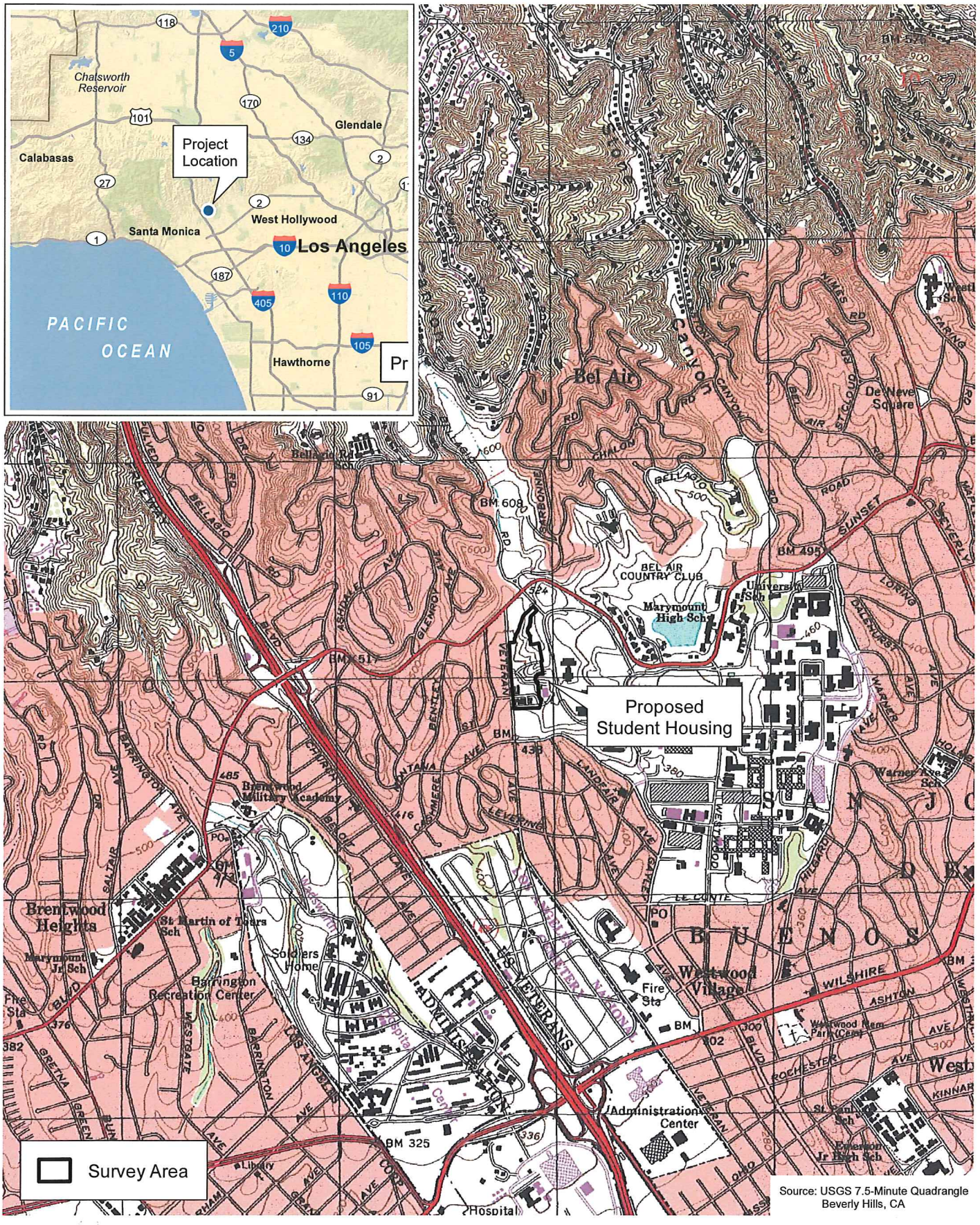

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Project Location

Exhibit 1

UCLA Housing and Long Range Development Plan Amendment Project

N W E S

2,000 1,000 0 2,000 Feet

PSOMAS

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Project Location

Figure 2

UCLA Housing and Long Range Development Plan Amendment and Student Housing Projects

N W E S

200 100 0 200 Feet

PSOMAS

(Rev: 07/05/2017 MMD) R:\Projects\UCLA\J0028.08\Graphics\CAGN\ex_SurveyArea_20170627.pdf

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Vegetation

Figure 3

UCLA Housing and Long Range Development Plan Amendment and Student Housing Projects

N W E S

150 75 0 150 Feet

PSOMAS

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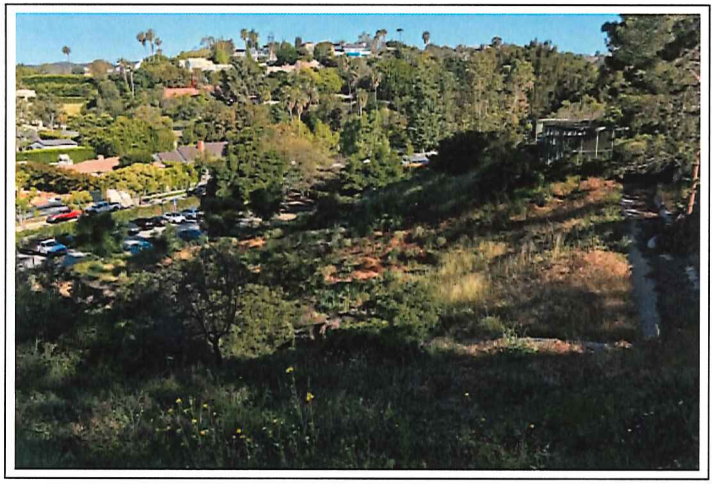
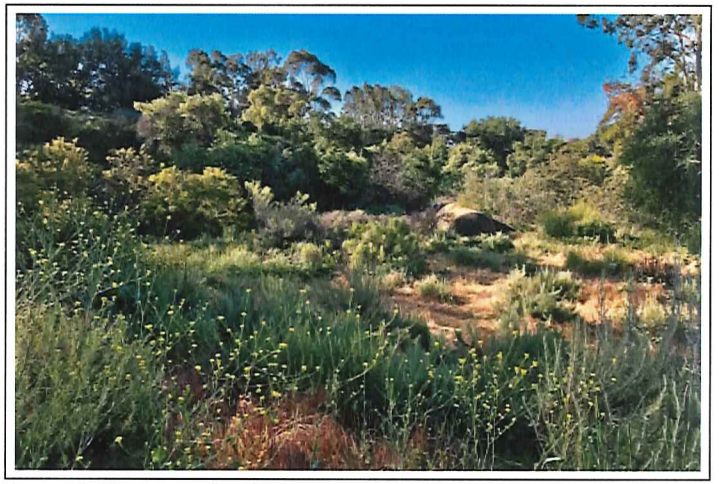
ATTACHMENT A

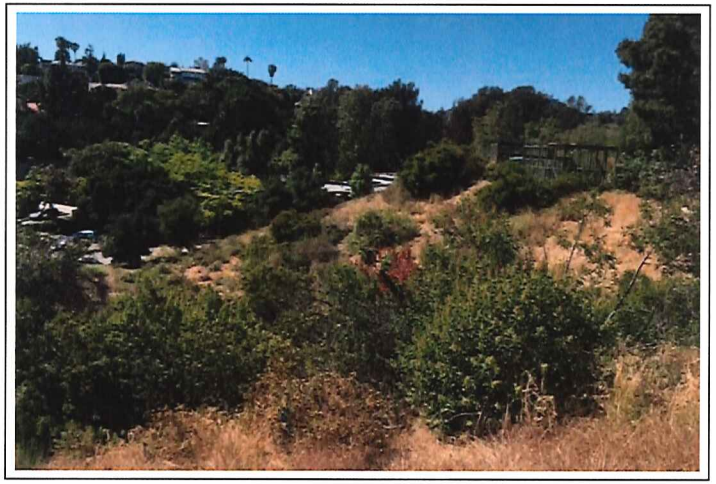
SITE PHOTOS



View of California sagebrush scrub-native grassland ecotone from the top of the slope overlooking Parking Lot 10. Photo taken in April 2017.



View of California sagebrush scrub-native grassland ecotone from the bottom of the slope adjacent to Parking Lot 10 facing south. Photo taken in April 2017.



View of California sagebrush scrub-native grassland ecotone from the top of the slope overlooking Parking Lot 10. Photo taken in June 2017.

View of California sagebrush scrub-native grassland ecotone from the bottom of the slope adjacent to Parking Lot 10 facing northeast. Photo taken in June 2017.

Site Photographs

Attachment A

UCLA Housing and Long Range Development Plan Amendment and Student Housing Projects

PSOMAS

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D:\Projects\UCLA\J028.08\GRAPHICS\CAGN\Att_SP_20170705.ai

ATTACHMENT B

WILDLIFE COMPENDIUM

WILDLIFE SPECIES OBSERVED ON THE SURVEY AREA 2017

Species	
Scientific Name	**Common Name**
REPTILES	
PHRYNOSOMATIDAE – ZEBRA-TAILED, FRINGE-TOED, SPINY, TREE, SIDE-BLOTCHED, AND HORNED LIZARDS	
Sceloporus occidentalis	western fence lizard
BIRDS	
ANATIDAE – SWAN, GOOSE, AND DUCK FAMILY	
Anas platyrhynchos	mallard
COLUMBIDAE – PIGEON AND DOVE FAMILY	
Patagioenas fasciata	band-tailed pigeon
Zenaida macroura	mourning dove
*Columba livia**	rock pigeon
TROCHILIDAE – HUMMINGBIRD FAMILY	
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
ACCIPITRIDAE – HAWK FAMILY	
Buteo lineatus	red-shouldered hawk
PSITTACIDAE – PARROT FAMILY	
*Brotogeris chiriri**	yellow-chevroned parakeet
TYRANNIDAE – TYRANT FLYCATCHER FAMILY	
Sayornis nigricans	black phoebe
CORVIDAE – JAY AND CROW FAMILY	
Aphelocoma californica	California scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
PARIDAE – TITMOUSE FAMILY	
Baeolophus inornatus	oak titmouse
AEGITHALIDAE – BUSHTIT FAMILY	
Psaltriparus minimus	bushtit
TROGLODYTIDAE – WREN FAMILY	
Thryomanes bewickii	Bewick's wren
SYLVIIDAE – SILVIID WARBLERS FAMILY	
Chamaea fasciata	wrentit
TURDIDAE – THRUSH FAMILY	
Sialia mexicana	western bluebird
Turdus migratorius	American robin
BOMBYCILLIDAE – WAXWING FAMILY	
Bombycilla cedrorum	cedar waxwing
FRINGILLIDAE – FINCH FAMILY	
Haemorhous mexicanus	house finch
Haemorhous purpureus	purple finch
Spinus psaltria	lesser goldfinch
PARULIDAE – WOOD-WARBLER FAMILY	
Oreothypis celata	orange-crowned warbler

Species	
Scientific Name	**Common Name**
EMBERIZIDAE – SPARROW FAMILY	
Pipilo maculatus	spotted towhee
Melozone crissalis	California towhee
Melospiza melodia	song sparrow
Junco hyemalis	dark-eyed junco
CARDINALIDAE CARDINALS AND ALLIES	
Piranga ludoviciana	western tanager
ICTERIDAE – BLACKBIRDS AND ORIOLES	
Icterus cucullatus	hooded oriole
*Introduced species	

Appendix E

Historic Resource Evaluations

WARREN HALL
HISTORIC RESOURCE EVALUATION

UNIVERSITY OF CALIFORNIA, LOS ANGELES

[11124I]

Prepared for

UNIVERSITY OF CALIFORNIA, LOS ANGELES

PAGE & TURNBULL

imagining change in historic environments through design, research, and technology

JANUARY 13, 2017

FINAL

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I. INTRODUCTION

This Historic Resource Evaluation has been prepared at the request of the University of California, Los Angeles (UCLA) to evaluate the historic significance of Stafford Leak Warren Hall (Warren Hall) located at 900 Weyburn Place in the Westwood Village neighborhood of the City of Los Angeles **(Figure 1)**. Designed by the architecture firm Neptune & Thomas and completed in 1961, the Midcentury Modern building is located on the main UCLA campus, within the Southwest Zone.

Figure 1: Front (west) façade of Warren Hall, as seen from the private drive, Weyburn Terrace, within UCLA's Weyburn Terrace housing complex, looking south. Note the entrance pavilion in the background.

Property Location

Warren Hall is a two-story, laboratory and office building that is located on a low hill north of Weyburn Avenue in Westwood Village **(Figure 2)**. The building is on a large legal parcel referred to as the Southwest Zone by UCLA, and east of the Los Angeles National Cemetery. Originally deeded to UCLA in 1948 from the federal government, the parcel was intended initially to be the West Medical Campus. Currently, Warren Hall and its immediate site is within the Weyburn Terrace graduate housing complex constructed in the early 2000s by UCLA. Three- to four-story residential buildings surround Warren Hall on the (plan) north, west, and south.[1] A private drive, also known as Weyburn Terrace, is west of Warren Hall and separates the subject site from the graduate housing; landscaping and walking paths offer buffers and pedestrian circulation at the north and south. To the east, an alley called Weyburn Place separates the site from the back of multi-family apartment complexes fronting Levering Avenue, a few of which are also owned by UCLA. For reference, Warren Hall's original address was 900 Veteran Avenue.

[1] Warren Hall and the surrounding buildings are sited at an angle west of true north. For the purpose of this report, northwest is considered plan north and referred to as "north."

Figure 2: Warren Hall, highlighted in orange, is located on UCLA's main campus in the Southwest Zone. The dash line indicates the parcel owned by UCLA. Source: UCLA, edited by Page & Turnbull.

Methodology

This report provides a building description, historic context, and an examination of the current historic status for Warren Hall. The report also includes an evaluation of the property's eligibility for individual listing in the National Register of Historic Places (National Register) and the California Register of Historical Resources (California Register). As a state agency, the University of California is presumably exempt from local regulation. However, information about the City of Los Angeles' historic preservation efforts is included for reference.

Page & Turnbull prepared this report using research collected at various local repositories, including the Los Angeles County Assessor's Office and the Los Angeles Public Library. Various online sources such as Online Archive of California, the Internet Archive, ProQuest Historic Newspaper, Newspaperarchive.com, and historical Sanborn Fire Insurance maps were consulted as well. UCLA provided original architectural plans for the building and a list of architectural drawings in its files. Page & Turnbull conducted site visits in September and October 2016, and all photographs in this report were taken by Page & Turnbull at the visits, unless otherwise noted.

Summary of Findings

Constructed in 1961, Warren Hall was originally the home of the Laboratory for Nuclear Medicine and Radiation Biology. The laboratory was the continuation of the UCLA Atomic Energy Project, a post-World War II program funded by the federal Atomic Energy Commission (AEC) to study the biological and medical effects of radiation on living things. The Atomic Energy Project at UCLA was one of two such programs funded by the AEC and solely dedicated to biochemical research at the dawn of the Atomic Age. Warren Hall was specifically built to continue the AEC-funded research, and the Laboratory for Nuclear Medicine and Radiation Biology made significant contributions to the development of both fields. Although the Atomic Energy Project's earliest studies predate Warren Hall, the building is the best representation of UCLA's involvement with the AEC's biomedical research and its contribution to the development of the nuclear medicine field. As such, it meets the criteria for listing in the National Register and the California Register under Criterion A/1.

As an example of Midcentury Modern design, Warren Hall also meets the National Register and California Register Criterion C/3. With its prominent perforated concrete screens, structural clarity, modular construction, and use of concrete, glazing, and other materials, the building embodies the distinctive characteristics of the style. Warren Hall does not meet Criterion B/2, as it is not significant in the distinguished career of Dr. Stafford L. Warren as the Chief Medical Officer of the Manhattan Project's Medical Division or the first dean of the UCLA Medical School.

The building retains all aspects of integrity except for its setting, which has been significantly altered by the graduate housing surrounding its once open hilltop site. Despite the site alterations, Warren Hall has integrity to convey its historic and architectural significance. As such, it is eligible for listing in the National Register and California under Criterion A/1 and Criterion C/3 at the local level of significance, and would be considered a historic resource under the California Environmental Quality Act (CEQA).

II. REGULATORY SETTING

This section describes the primary laws, regulations, and programs that govern the treatment of historic resources for the University of California, Los Angeles.

FEDERAL

National Register of Historic Places

The National Register of Historic Places (National Register) is the nation's most comprehensive inventory of historic resources. The National Register is administered by the National Park Service and includes districts, sites, buildings, structures and objects significant in American history, architecture, archeology, engineering, and culture. These resources contribute to an understanding of the historical and cultural foundations of the Nation at the national, state, or local level. Typically, properties over 50 years of age may be eligible for listing in the National Register if they meet any one of the four significance criteria and if they retain sufficient historic integrity to convey that significance. Properties under fifty years of age may be determined eligible if it can be demonstrated that they are of "exceptional importance." Other criteria considerations apply to cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed buildings, and properties primarily commemorative in nature. National Register criteria are defined in depth in *National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation.*

Historic Significance

The National Register has four basic criteria under which a property may be considered eligible for listing. It can be found significant under one or more of the following criteria:

- Criterion A (Event): Properties associated with events that have made a significant contribution to the broad patterns of our history;
- Criterion B (Person): Properties associated with the lives of persons significant in our past;
- Criterion C (Design/Construction): Properties that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant distinguishable entity whose components lack individual distinction; and
- Criterion D (Information Potential): Properties that have yielded, or may be likely to yield, information important in prehistory or history.

A property may be considered significant on a national, state, or local level to American history, architecture, archaeology, engineering, and culture.

Integrity

In addition to qualifying for listing under at least one of the National Register criteria, a property must be shown to have sufficient historic integrity in order to be considered eligible for listing in the National Register. The concept of integrity is essential to identifying the important physical characteristics of historic resources and hence, in evaluating adverse changes to them. Integrity is defined as "the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance." For historic districts to retain integrity as a whole, the majority of the components that make up the district's historic character must possess integrity. In addition, the relationships among the district's components must be substantially unchanged since the period of significance.[2]

According to the *National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation*, these seven aspects are generally defined as follows:

- Location is the place where the historic property was constructed.
- Design is the combination of elements that create the form, plans, space, structure and style of the property.
- Setting addresses the physical environment of the historic property inclusive of the landscape and spatial relationships of the building/s.
- Materials refer to the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form the historic property.
- Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history.
- Feeling is the property's expression of the aesthetic or historic sense of a particular period of time.
- Association is the direct link between an important historic event or person and a historic property.

Integrity is a "yes" or "no" determination. A historic property either has adequate integrity, or it does not. To retain historic integrity, a property will often possess several, if not all of the aforementioned aspects. Specific aspects of integrity may also be more important, depending on the criteria for which it is significant.

It is important to note that historic integrity is not synonymous with condition. A building or structure can possess all or many of the seven aspects of integrity, even if the condition of the materials has degraded. Condition comes into consideration when there is a substantial loss of historic material or other character-defining features.

[2] National Park Service, National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation, (Washington D.C.: National Park Service), 46.

STATE

California Register of Historical Resources

The California Register of Historical Resources (California Register) is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change."[3] A property may be eligible for listing in the California Register if it meets one or more of the following criteria:

- Criterion 1: Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Criterion 2: Associated with the lives of persons important in our past;
- Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history.

These criteria are based upon National Register of Historic Places criteria; however, the California Register does not impose as specific requirements for integrity and age as the National Register. Properties eligible for listing in the California Register must retain enough of their historic character or appearance to be recognizable as historic resources and to convey the reasons for their significance. While the National Register guidelines for integrity can be applied for California Register eligibility, it is possible that resources, which may not retain sufficient integrity for listing in the National Register, may still be eligible for the California Register. Moved or reconstructed buildings, structures, or objects may also be considered for listing in the California Register under specific circumstances. In addition, properties that were constructed less than fifty years ago or which achieved significance less than fifty years ago may be eligible for inclusion in the California Register provided that sufficient time has passed to understand their significance within a historic context.

Properties may be listed in the California Register through a number of methods. State Historical Landmarks and National Register-listed properties are automatically listed in the California Register. Additionally, properties formally determined eligible for listing in the National Register are automatically listed in the California Register. Properties may also be nominated to the California Register by local governments, private organizations, or citizens.

The California Register of Historical Resources follows nearly identical guidelines to those used by the National Register, but identifies the Criteria for Evaluation numerically (1 through 4) instead of alphabetically (A through D). With the exception of some properties with additional criteria consideration (50 years or less, moved buildings, etc.), properties that meet the National

[3] Pub. Res. Code Section 5024.1(a).

Register criteria typically also meet the California Register criteria and vice versa and are often evaluated together.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) is state legislation (Pub. Res. Code §21000 et seq.), which provides for the development and maintenance of a high quality environment for the present-day and future through the identification of significant environmental effects.[4] CEQA applies to "projects" proposed to be undertaken or requiring approval from state or local government agencies. In accordance with CEQA Guidelines Section 15378, a "Project" is defined as "…the whole of an action, which has the potential for resulting in either a direct change in the environment, or a reasonably foreseeable indirect physical change in the environment" and which involves an activity directly undertaken by a public agency, an activity that requires public agency assistance or entitlement, or an activity that requires discretionary approval by a public agency.[5] Historic and cultural resources are considered to be part of the environment. In general, the lead agency must complete the environmental review process as required by CEQA.

A building may qualify as a historic resource if it falls within at least one of four categories listed in CEQA Guidelines Section 15064.5(a), which are defined as:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register) (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4850 et seq.).

2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1 (g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Pub. Resources Code),

[4] "CEQA Guidelines," California Natural Resources Agency, accessed June 10, 2016, http://resources.ca.gov/ceqa/guidelines/.
[5] Ibid.

> or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Pub. Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Pub. Resources Code sections 5020.1(j) or 5024.1.[6]

Properties listed or formally determined eligible for listing in the National Register National Register are listed automatically in the California Register.[7] As such, they are considered historic resources under CEQA.

CEQA stipulates that a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the environment. CEQA further states that a project that conforms to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (the *Standards*) may be considered to have less than significant impacts with regard to historic resources.

LOCAL

As a state agency, the University of California is presumably exempt from local regulation. For purposes of information only, brief descriptions of the two local designation programs in the City of Los Angeles are provided.

City of Los Angeles Historic-Cultural Monument (HCM)

The Los Angeles City Council adopted the Cultural Heritage Ordinance in 1962 and amended it in 2007 (Administrative Code Section 22.171). The ordinance created a Cultural Heritage Commission and criteria for designating Historic-Cultural Monuments (HCM or Monument). An HCM is any site (including significant trees or other plant life on the site), building, or structure of particular historic or cultural significance to the City of Los Angeles:

- In which the broad cultural, economic, or social history of the nation, State, or community is reflected or exemplified; or
- Which is identified with historic personages or with important events in the main currents of national, state, or local history; or
- Which embodies the distinguishing characteristics of an architectural type inherently valuable for a study of a period, style, or method of construction; or
- A notable work of a master builder, designer, or architect whose individual genius influenced his or her age.

Though not numbered, the four criteria closely match Criteria A through C of the National Register and Criteria 1 through 3 of the California Register. The HCM criteria do not specifically address Criteria D or 4 of either register.

The Office of Historic Resources (OHR) within the City's Department of City Planning maintains a list of HCMs. The Los Angeles City Council or the Cultural Heritage Commission may initiate

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[6] Pub. Res. Code SS5024.1, Title 14 CCR, Section 4850 et seq.

[7] California Office of Historic Preservation, *Technical Assistant Series No. 7, How to Nominate a Resource to the California Register of Historic Resources* (Sacramento: California Office of State Publishing, 2001),11.

consideration of HCM designation for a site, building, or structure, and any interested individual may apply for the HCM designation.

The Los Angeles ordinance predates the National Register and California Register and does not address the issues of integrity or age eligibility for HCM designation. It also does not address designation of historic districts, which a separate ordinance in the Los Angeles Municipal Code covers (Municipal Code Section 12.20.3).

City of Los Angeles Historic Preservation Overlay Zones (HPOZ)

The Los Angeles City Council adopted the Historic Preservation Overlay Zone ordinance in 2004 (Municipal Code Section 12.20.3). The HPOZ ordinance provides for the designation of an area having historic, architectural, cultural, or aesthetic significance as a Historic Preservation Overlay Zone (HPOZ). Contributing features to an HPOZ may be structures, landscaping, natural features, or sites that meet one or more of the following criteria:

(a) the feature adds to the historic architectural qualities or historic associations for which a property is significant because it was present during the period of significance, and possesses historic integrity reflecting its character at that time; or
(b) owing to its unique location or singular physical characteristics, the feature represents an established feature of the neighborhood, community or city; or
(c) retaining the feature would help preserve and protect an historic place or area of historic interest in the City.

HISTORIC SURVEYS AND EVALUATIONS

CEQA also recognizes a property that has been surveyed or evaluated and meets the criteria for listing in the California Register as a historic resource, unless a preponderance of evidence demonstrates that it is not historically or culturally significant. Below are relevant surveys and evaluations.

California Historical Resource Status Code

Properties listed or under review by the State of California Office of Historic Preservation are assigned a California Historical Resource Status Code (Status Code) of “1” to “7” to establish their historical significance in relation to the National Register of Historic Places (National Register or NR) or California Register of Historical Resources (California Register or CR). Properties with a Status Code of “1” or “2” are already listed in the National Register or California Register or formally determined eligible for listing in one or both registers. Properties assigned Status Codes of “3” or “4” appear to be eligible for listing in either register, but normally require more research to support this rating. Properties assigned a “5” Status Code have typically been determined locally significant or to have contextual importance. Properties with a “6” Status Code are not eligible for listing in either register. Finally, a “7” Status Code means that the resource has not been evaluated for the National Register or the California Register, or needs re-evaluation.

City of Los Angeles SurveyLA

SurveyLA is a multi-year program to survey, identify and record potential historic resources in Los Angeles' 466 square miles and 880,000 legal parcels. The program used the National Park Service's Multiple Property Documentation (MPD) approach to streamline the identification and evaluation of thematically-related historic properties. The approach includes two parts: preparation of a Citywide Historic Context Statement (HCS) and field surveys conducted by professional historic preservation consultant teams. The HCS is a narrative document that is intended to provide a framework for survey professionals to identify potential historic resources as well as a source of information for the general public. Historic context statements are not intended to be a chronological recitation of a community's significant historical events or noteworthy citizens or a comprehensive community history.[8] Instead, the SurveyLA HCS identifies the themes representing various facets of Los Angeles history and relates those themes to representative property types. The HCS includes a broad range of topics relating to the architectural, social, and cultural history of Los Angeles, and is designed to be expanded over time to incorporate new themes and property types.

While the survey is in progress, the city-wide HCS is a "work in progress," as results from the survey will inform the HCS. Its initial outline and summary has aided the field surveys in predicting the location, type, quantity, and quality of resources expected to be found in a specific theme and provides a framework to evaluate these resources. Field surveys started in 2010 and are on-going. They were divided into three phases according to Community Plan areas, i.e. the 35 areas into which the city has been divided for planning purposes. The field surveys evaluated properties using the criteria for the National Register, California Register, City of Los Angeles HCM, and City of Los Angeles HPOZ.

The survey covers the period from 1865 to 1980 and includes individual resources such as buildings, structures, objects, natural features, and cultural landscapes. In addition to individual resources, the survey includes areas and districts.

While SurveyLA provides baseline information on potential historic resources, survey findings are subject to change over time as properties age, more information is uncovered, and more detailed analyses are completed.[9] Resources identified through SurveyLA are not designated resources; designation is a separate process that requires public hearings and property owner notification.[10] The listing of a potential resource in the survey therefore does not confer local HCM status upon the property.

[8] Marie Nelson, California Office of Historic Preservation, "Welcome Note from the Office of Historic Preservation," *SurveyLA Citywide Historic Context Resource Guide*, (2012).
[9] SurveyLA, "SurveyLA Findings and Report."
[10] Ibid.

HISTORIC STATUS OF WARREN HALL

Warren Hall is not currently listed in the National Register, California Register, or as a City of Los Angeles Historic-Cultural Monument. It is not within a City of Los Angeles Historic Preservation Overlay Zone.

Warren Hall has not been previously identified or surveyed as a historic resource. As of the last published version in 2011, Warren Hall is not listed in the California Historic Resources Information System (CHRIS) database under its current or original address with any status code. This means that the property had not been previously surveyed using California Historical Resource Status Codes or that the surveys had not been submitted to the California Office of Historic Preservation.

It does not appear that SurveyLA evaluated Warren Hall as part of the Westwood Community Plan Area. The building is not easily visible from the public right of way and may not have been surveyed.

III. PHYSICAL DESCRIPTION

Warren Hall is a two-story building with a partial basement that is U-shaped in plan and designed in the Midcentury Modern style **(Figure 3)**. It is set back on the hill above the northeast corner of Weyburn Avenue and Weyburn Terrace and screened from Weyburn Avenue by mature trees at the corner **(Figure 4 and Figure 5)**. Due to the sloped topography, the building is tucked into the hill at the site's northeast corner **(Figure 6)**. The building was accessed originally from the west (now Weyburn Terrace) by stairs toward the building's south end that no longer exist; another set of stairs is now toward the north end. The landscape was previously covered in pine and olive trees, some of which have remained despite the housing complex surrounding the property. Parking lots serving Warren Hall are located at the southern end of the building, within the building's open service court, and along the eastern edge of the site. The service court is accessed from Weyburn Place.

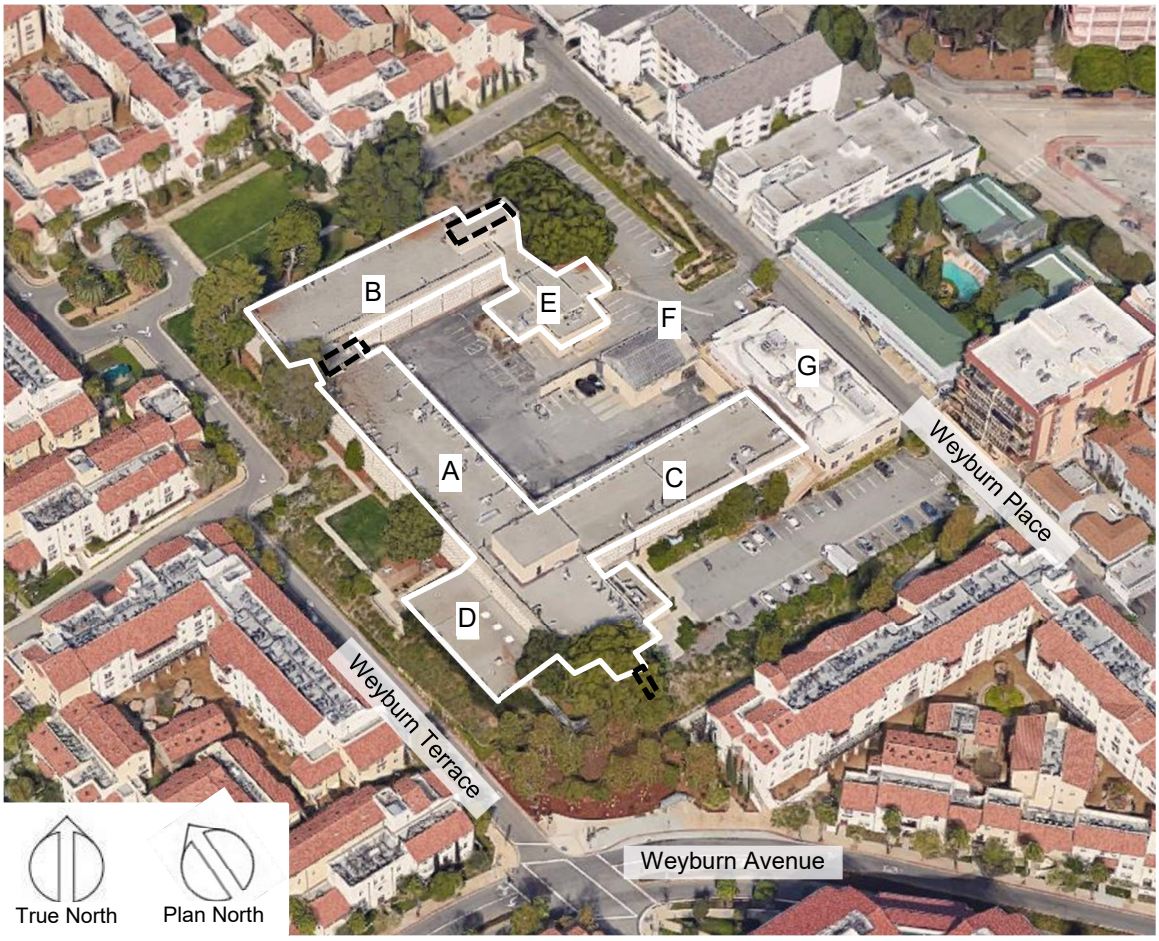

Figure 3: Aerial view of Warren Hall. Warren Hall consists of a west wing (A), north wing (B), and south wing (C), with an entrance pavilion (D), radiation facilities (E), and a stand-alone greenhouse (F). The Hillblom Islet Research Center (G) was added to the site in 2004 but not attached to Warren Hall. Dashed outlines are the circulation cores visible from the exterior. Source: Google Maps, 2016, edited by Page & Turnbull

Figure 4: West (front) façade of the west wing, along Weyburn Terrace, looking south. Note the glazed connector to the north wing (left) and the entrance pavilion in the background (right).

Figure 5: Warren Hall hidden behind mature trees at the corner of Weyburn Avenue and Weyburn Terrace (left), looking north.

Figure 6: Northeast corner of Warren Hall set into the hillside, as seen from Weyburn Place, looking southwest.

Warren Hall has a cast-in-place concrete column grid approximately 24 feet on center sitting on concrete footings with some lift-slab concrete walls throughout. The roof is flat with a flexboard screening parapet set back from the roof edge at the three wings. The building mainly consists of intersecting rectangular volumes of various types. Three main linear wings containing laboratories and offices intersect to create the open service and parking court at the east (rear). The longest bar is the west wing (A). It is in the north-south direction at the west side of the site and at the front of the building **(Figure 4)**. The north wing (B) connects to the west wing via a recessed connector that houses a stair **(Figure 7 and Figure 8)**. The south wing (C) intersects the west wing at the rear (east) with no connector **(Figure 9)**. It is set back from the southern-most end of the west wing to form a parking lot at the south end of the site, where a one-story volume extends

from the rear of the west wing **(Figure 10)**. A one-story entrance pavilion (D) is in line with the south wing and massing at the front (west) side of the west wing overlooking Weyburn Terrace. Exterior circulation cores are at the ends of the north and west wings.

Figure 7: Glazed connector at the west façade between the north wing (left) and west wing (right), looking northeast.

Figure 8: North (left) and west (right) wings, looking southeast.

Figure 9: The north façade of the south wing (left) as it connects with the west wing (background) at the rear service court, looking southwest. Note the south wing only has the concrete screens on the second floor.

Figure 10: The south façade of the south wing (right) as it intersects with the west wing, creating a parking lot along the south end of the site, looking west. Note the one-story massing with the window wall system at the intersection.

In the rear service court, a one-story section extends south from the tall circulation core at the east end of the north wing; this section originally housed the radiation facilities (E). A stand-alone two-story greenhouse original to the construction is also in the service court north of the south wing (F) **(Figure 11)**. A one-story building, known as the Larry Hillblom Islet Research Center (Hillblom Islet Center), was added to the site in 2004 at the site's southeast corner separated from the south wing by a walkway **(Figure 12)**.

Figure 11: Service court as seen from Weyburn Place, with the greenhouse (left) and radiation facilities (right), looking west.

Figure 12: The 2004 Hillblom Islet Center added to the site east of the south wing (left) but is not attached, looking northwest.

Main Wings (A, B, C)

The long exterior walls of each wing generally consist of a window wall system composed of 3-feet wide steel-framed units. Each unit typically includes a fixed, single-light window topped by a transom that is fixed or awning between a panel of flexboard above and below the window **(Figure 13).**[11] The window walls are set back from the floor plate edge behind panels of concrete screen, which are the most prominent and visible exterior feature of Warren Hall **(Figure 14)**. The concrete screens appear to be concrete blocks cut with a hexagon opening and tied together by steel rods. A gap of approximately three feet is between the window walls and the concrete screens. In some locations, a glazed door replaces a window wall module to provide access to the gap space.

Figure 13: Typical exterior window wall system at the three wings with glazing and flexboard. Note the building's steel column grid.

Figure 14: Detail of concrete screen placed in front of the window wall system.

[11] Flexboard was a cement fiber board made to be more flexible than plywood. Some flexboard used asbestos as the fiber in the boards. No information has been found about the kind of fibers that is in the Warren Hall flexboard.

At each wing's long façades, the visible floor plate edges create horizontal bands at the ground, middle, and roofline across the span. Recessed below the lower floor plate is a concrete band, allowing the wing to appear to float. The south wing has the window wall system and concrete screens on the second floor only; the first floor is typically cement plaster with some openings. The ends of each wing are generally scored concrete with limited openings.

Circulation Cores

Warren Hall has three circulation cores visible from the exterior. One is the recessed connector at the west façade connecting the north end of the west wing to the north wing. It is a lower, double-height volume glazed at the west façade with aluminum-framed fixed windows and a pair of glazed, aluminum-framed doors **(Figure 15)**. A set of concrete stairs accesses the entrance. Seen through the glazed wall is a floating concrete stair supported by a concrete "T" with visible tread profiles at its sides. The east façade of the connector is board-formed concrete with a vertically-oriented pattern resembling wood slat paneling and a flat vertical band at the metal and glazed door and a second-floor window; the concrete treatment is typical at the exterior circulation cores **(Figure 16)**.

Figure 15: Glazed connector of the north (left) and west (right) wings at the west façade, looking east.

Figure 16: East façade of the glazed connector at the service court, looking west.

A second circulation core intersects with the east end of the north wing **(Figure 17 and Figure 18)**. This tall elevator and stair core has concrete walls on the north and south sides with a vertical band of flat concrete where there are paired three-light windows. The rest of the walls have the vertically-oriented pattern mimicking vertical wood siding. Its east side is open, exposing the concrete stair **(Figure 19)**. A metal and glazed pair of doors below a canopy is at the stair core's north façade.

The third circulation core is at the south end of the west wing. It is also open at the south end and at the attachment to the west wing, but has concrete walls of the vertically-oriented pattern on its west and east sides **(Figure 20)**.

Figure 17: South façade of the north wing in the service court, with the tall circulation core at the east end (right), looking north.

Figure 18: Circulation core (left) at the east end of the north wing (right), looking southwest.

Figure 19: Open east end of the circulation core at the north wing's east end, looking west.

Figure 20: Circulation stair at the west wing's south end, looking west.

Entrance Pavilion (D)

Toward the south end of west wing's west (front) façade is a one-story entrance pavilion projecting west **(Figure 21)**. The pavilion has concrete walls with the vertically-oriented pattern mimicking vertical wood siding at the north and south façades. The north façade includes an extended overhang protecting the main entrance's entry, which has a pair of non-original aluminum-framed glazed doors set within a glazed wall. The south façade has a secondary entrance with a non-original hollow metal door that is set in an aluminum-framed glazed window wall. Two windows with flexboard bases are to the east of the door. A metal ramp provides disable access through this entrance **(Figure 22)**.

The west façade of the pavilion has the typical window wall system with windows above flexboard bases, but the flexboard and window modules are wider than at the walls of the main wings and have no concrete screens. The façade is hidden from view by landscaping. The pavilion has three skylights.

Figure 21: Entrance pavilion with floating stairs and platform, looking south.

Figure 22: South façade of entrance pavilion with disable access ramp, looking north.

The main entrance at the pavilion is accessed by broad concrete steps from a floating concrete deck, that is in turn accessed by floating steps from the front landscaped terrace **(Figure 23 and Figure 24)**. Metal pipe railing is at all steps. The landscape terrace extends to the entrance at the glazed connector to the south, which has a set of stairs leading from Weyburn Terrace.

Figure 23: Terrace at the west façade, looking north.

Figure 24: Terrace at the west façade, looking south.

Radiation Facilities (E)

Connected to the north wing by the tall circulation core and partially enclosing the service court is a one-story section that was originally designed as the building's radiation facilities **(Figure 25)**. Cross-shaped in plan, this section contains two windowless rooms for x-ray and gamma ray materials with three- to five-foot concrete walls at the east and south ends. An addition has been added to the south end surrounding one of the rooms; a paired door accessed by a ramp next to two punched openings is at the addition's south façade. The west façade of the radiation facilities faces the service court and has an entrance located below an extended eave; a chain link fence topped with barb wire encloses the façade **(Figure 26)**. The east elevation of the east wing has no openings.

Figure 25: Radiation facilities, with a southern addition marked by a door and two windows, looking northwest.

Figure 26: West façade of the radiation facilities in the service court, looking east.

Greenhouse (F)

The greenhouse is a two-story gabled concrete structure with a mostly glazed second floor and roof **(Figure 27)**. The first floor has smooth concrete walls that are taller in the service court than at the east façade to address the sloped site **(Figure 28)**. The greenhouse is primarily accessed from its south façade, which includes a single-bay garage door and a recessed carport. The north façade has a projection attached to the second floor with louvers. Due to the grade change, the east façade's second floor has a paired sliding door accessible by a concrete ramp; it also has cement-asbestos panels in place of glass, according to the original drawings.

Figure 27: West (left) and south (right) façades of the greenhouse, looking northeast.

Figure 28: East (left) and north (right) façades of the greenhouse, looking southwest.

Interiors

The interior of Warren Hall has generally retained the original layout with rooms and offices lining double-loaded corridors **(Figure 29)**. The finishes have been updated during different occupancies. In some locations, walls between offices and/or laboratories have been removed to or added for the building's current space needs. The corridor walls and ceilings are typically gypsum plaster and floors are vinyl tile. The doors are typically wood; some doors have a single light. A kitchen for the nutrition program replaced a previous library space in the building's southeast corner. The radiation facilities are closed off and not occupied currently. From the interior, the building's window wall system is more noticeable **(Figure 30)**.

Figure 29: Typical corridor inside Warren Hall.

Figure 30: Typical interior showing the exterior window wall system and screen.

The entrance pavilion consists of the main lobby, offices, and an added glass-enclosed conference room within a space labeled “atrium” on the original drawings with three skylights. The lobby generally retains the original modest finishes. The “atrium” space is separated from the lobby by an aluminum-framed glazed wall with paired wood doors **(Figure 31)**. The space has pebble aggregate concrete paver floors and a concrete wall in the vertically-oriented pattern similar to the exterior of the pavilion **(Figure 32)**. Offices are on the other side of the wall, facing Weyburn Terrace. The glazed conference room in the “atrium” was added at an unknown date.

Figure 31: Glazed wall and wood doors in the lobby leading to an “atrium,” as listed on the original plans.

Figure 32: Concrete wall with vertical pattern in “atrium” and a skylight above.

IV. HISTORIC CONTEXT

UNIVERSITY OF CALIFORNIA, LOS ANGELES

The University of California was established in 1868, with the Berkeley campus opening in 1873. In 1881, the Los Angeles State Normal School was founded for the purpose of teacher training. Originally located on five acres in downtown Los Angeles, the Normal School became the University of California Southern Branch in 1919, culminating an effort by Regent Edward Dickson to bring a campus of the state university to Los Angeles. Between 1914 and 1919, the Normal School had occupied a 25-acre property on North Vermont Avenue, which was then transferred to the Southern Branch by act of the state legislature. With an enrollment of 250 students, the Southern Branch initially offered a two-year program in the College of Arts and Sciences. Two-year programs became four-year programs in 1924, and by 1925, it was apparent that the institution would soon outgrow its home.

An official search for a new site was launched by the Regents of the University in 1925, who explored possibilities from Ventura to San Diego Counties, eventually narrowing the search to seventeen locations. Five finalists were selected: Burbank, Fullerton, Pasadena, Palos Verdes, and the former Wolfskill Ranch, west of the young city of Beverly Hills and adjacent to the newly developing affluent communities of Bel-Air, Brentwood, and Holmby Hills. Eventually the "Beverly" site was chosen and purchased at a highly advantageous price. Property owners Edwin and Harold Janss, developers of Holmby Hills and "Westwood Hills," a middle-class subdivision south of the proposed University location, contributed 220 acres. Alphonzo Bell, developer of Bel-Air and several portions of Brentwood and Pacific Palisades further to the west, also contributed to the accumulation of land south of the Santa Monica Mountains. The purchase was monetarily supported by contributions from the cities of Los Angeles, Santa Monica, Beverly Hills, and Venice. Funds for construction, in the form of a six-million-dollar bond issue (half of which was allocated to the new campus), were approved by the voters of the State of California in 1926.

Ground was broken in 1927, the same year the name of the school was officially changed to the University of California at Los Angeles.[12] The campus was laid out under the direction of architect George W. Kelham. The supervising architect of the Berkeley campus at the time, Kelham was a prominent San Francisco practitioner who had been educated at the Ecole des Beaux Arts. His master plan, created with the assistance of Berkeley landscape architect John W. Greg, reflected traditional principles. The first four buildings to be erected—Royce Hall, College (Powell) Library, and two science buildings—flanked a central quadrangle and stylistically reflected the Romanesque and Renaissance architecture of northern Italy **(**Error! Reference source not found.**)**. Accessed at the east from Hilgard Avenue across a bridge that spanned a ravine or arroyo, the four original 1927-28 buildings stylistically reflected the Romanesque and Renaissance architecture of northern Italy. Designed by Kelham and prominent Los Angeles architects Allison and Allison, the buildings displayed a common palette of red brick exteriors, terracotta trim, and red tile roofs.

[12] Much of the information about the architectural development of the UCLA campus is from David Gebhard and Robert Winter*, Los Angeles: An Architectural Guide* (Salt Lake City: Gibbs-Smith Publisher, 1994), 114-120.

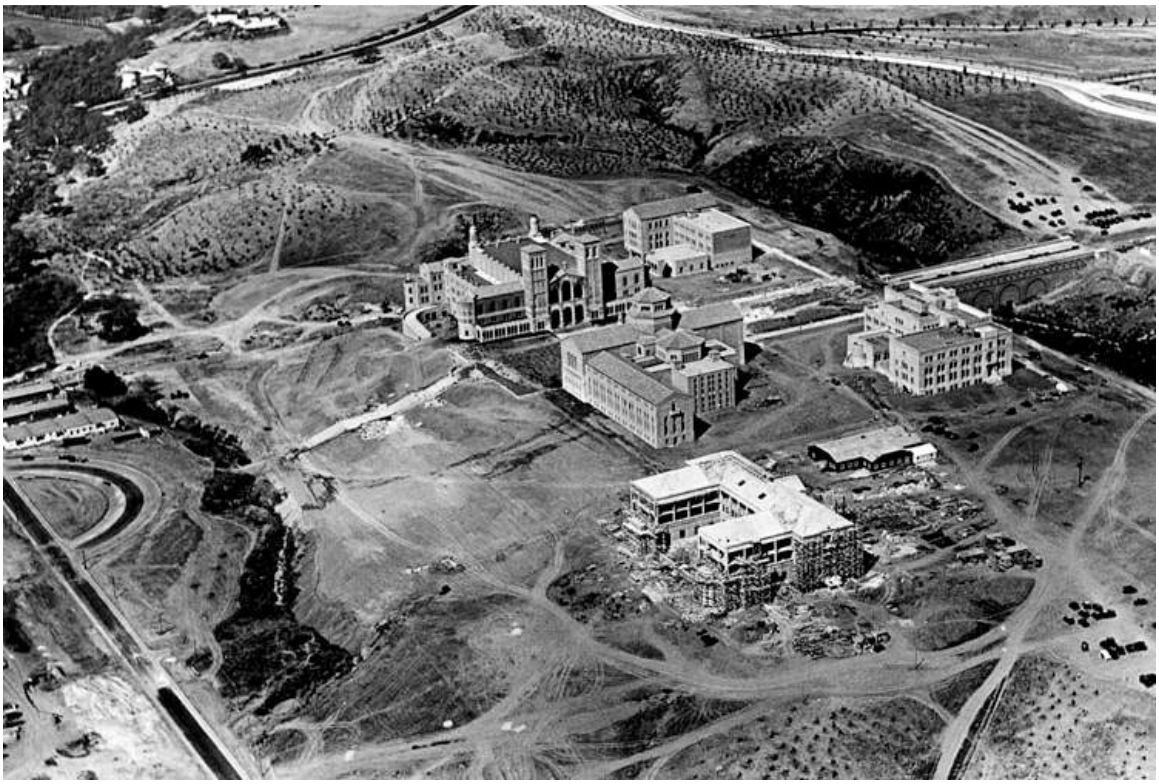

Figure 33: Early buildings constructed at UCLA around a central quadrangle, 1929.
Source: Security Pacific National Bank Collection, Los Angeles Public Library, LAPL00042345.

Additional buildings constructed during the 1930s, including the Education Building and Men's and Women's Gymnasiums, continued the theme. The designs of two other buildings from the decade went in slightly different directions: Kerckhoff Hall incorporated a Gothic Revival motif while the Mira Hershey residence hall was more Mediterranean Revival in appearance. In terms of building placement and campus growth, the 1930s buildings remained close to the four original buildings. The Men's and Women's Gymnasiums were located west of the four original buildings, at the bottom of the broad Janss Steps (1930), extending the main east-west axis of the quadrangle westward to a lower terrace.

In 1935, David Allison of Allison and Allison took over the role of supervising architect after the death of Kelham while Ralph D. Cornell became the campus landscape architect in 1937. However, the Great Depression and World War II limited campus construction so that the core academic buildings remained surrounded by open space at the end of the war, at which time UCLA had approximately 15 buildings on campus **(Figure 34)**.

Postwar Campus Development

Following World War II, enrollment at UCLA surged, as veterans took advantage of the G.I. Bill and the population of Southern California exploded. Additional buildings were needed to accommodate the exponential growth, and the state legislature made funds available from

accumulated wartime taxes.[13] The immediate postwar demands did not allow for a deliberate planning process; the focus was on providing academic facilities to meet the pressing needs.[14] The initial building boom in the late 1940s and early 1950s included a number of new schools and colleges, including the Business Administration and Economics Building (1948), Engineering Building (1950), Law Building (1951), Geology Building (1951), and New Chemistry Building (1951) **(Figure 35).** Initially under David Allison as the supervising architect, the new postwar buildings were still low-rise and red brick, although more modern in style.

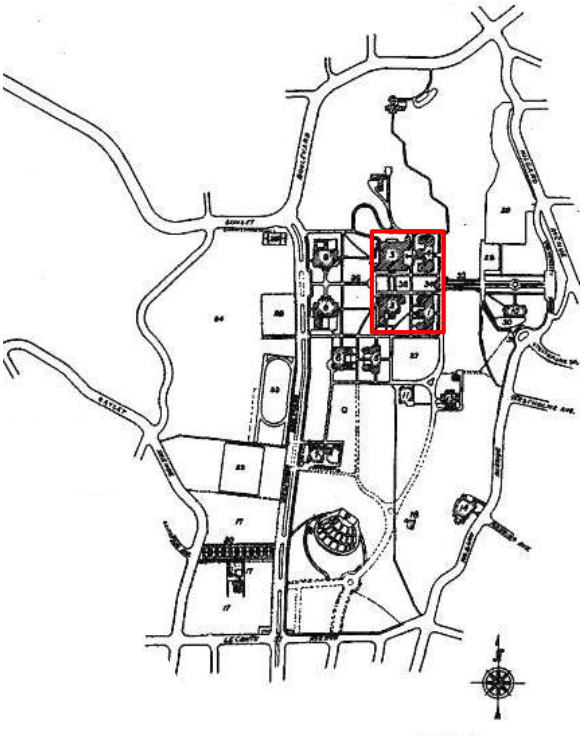

Figure 34: Campus map from 1944-45 with the four original 1927-28 buildings bounded in red.
Source: UCLA General Catalog, 1944-45.

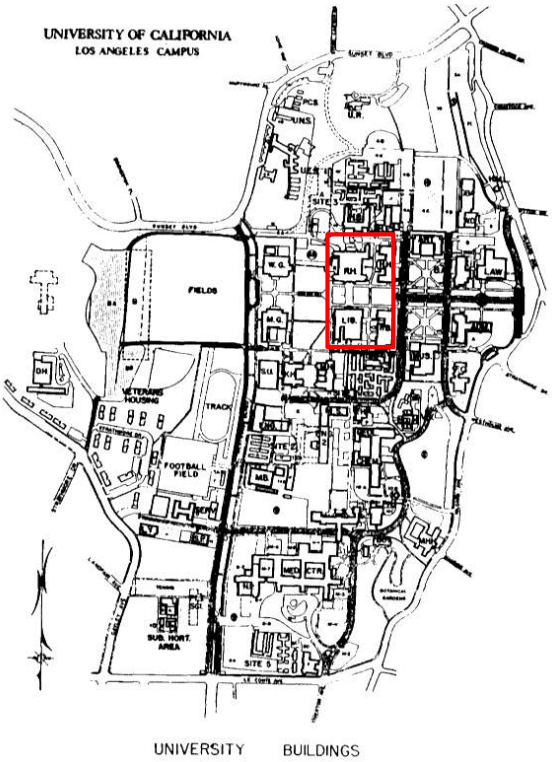

Figure 35: Campus map from 1955-56 with the four original 1927-28 buildings bounded in red.
Source: UCLA General Catalog, 1955-56.

In 1948, the architectural firm of Wurdeman and Becket succeeded Allison as UCLA's supervising architect, with the subsequent firm of Welton Becket and Associates taking over following the Wurdeman's death in 1949. The campus architecture under Becket took on a more deliberately modern idiom but the buildings generally remained low-scale and maintained a common palette of red or buff brick clad exteriors. However, they became less so as development grew further from the original core of the campus.

After the initial postwar boom, construction slowed in the mid-1950s only to pick up at the end of the 1950s as funds became available and deliberate planning for anticipated enrollment and space use could occur. Construction on the Medical Center complex, which opened its first

[13] Marina Dundjerski, *UCLA: The First Century* (London and Los Angeles: Third Millennium Publishing Limited in conjunction with the UCLA History Project/UCLA Alumni Association, 2011), 102.
[14] William Wallace, "The Architecture and Physical Development of UCLA," Student Paper, University Archives, Subject Files, UCLA Library Special Collections, (1965).

building in 1955, dominated this period. Non-academic construction such as the first of four multi-story residence halls (Dykstra Hall, 1959) and Ackerman Student Union (1960), were completed at the end of the decade as fully Midcentury Modern designs without the traditional palette.

In 1963, UCLA adopted its first Long Range Development Plan to guide future development. Voters passed three successive state bond measures in 1962, 1964, and 1966, providing UCLA with $95 million for campus building expansion. With an additional $55 million through matching federal funds, gifts, and other sources, UCLA undertook a substantial building program in the 1960s that erected over 50 buildings.[15] The buildings in the 1960s tended to be larger in scale and decidedly modern without the previous unifying materials palette. Examples include Maynard Lyndon's Bunche Hall (1964), the first modern high-rise academic building on campus, and the three additional multi-story residence halls at the far west end of campus between 1959 and 1964. Designed by Welton Becket and Associates, these dormitories, including Dykstra Hall, were unapologetically modern, with a modular, repetitive design executed in concrete.

UCLA MEDICAL CENTER AND WEST MEDICAL CAMPUS

In 1945, the UC Regents moved to create a medical school at UCLA directly after the war. At that point, the Southern California region had only a few medical schools and was sorely in need of additional medical facilities to train local doctors.[16] An advisory committee explored the options for developing a medical school at UCLA on or off campus, and whether a teaching hospital should be included. Among the experts they contacted was Dr. Stafford L. Warren, professor of radiology at the University of Rochester in New York and the former head of the Medical Division for the Manhattan Project that developed the atomic bomb during World War II. In 1947, Dr. Warren was appointed as the founding dean of the UCLA School of Medicine.[17]

After much debate, the decision was made to locate the medical school at the south edge of campus to anchor the new Court of Sciences and to be close to academic science departments. A full hospital would be incorporated with the medical school in order to integrate teaching with the best current practices.[18] Still, Dr. Warren and the advisory committee saw the medical school and hospital as the core of a larger medical and research center where additional hospitals and institutes could support each other. Anticipating that the campus would not have enough space, they persuaded the University of California to acquire a 33-acre tract of land in Westwood Village owned by the federal government. Known as the C&H Tract, the land was east of the Los Angeles National Cemetery and bounded by Veteran Avenue to the west, Wilshire Boulevard to the south, Weyburn Place to the east, and the developed lots on the south side of Strathmore Drive to the north **(Figure 36)**. It was part of the property acquired in the 1880s for a National Home for Disabled Volunteer Soldiers, the precursor to the United States Department of Veterans

[15] Dundjerski, 147.
[16] Dundjerski, 110. The University of California had long operated the Los Angeles Medical Department, which it took over from the University of Southern California (USC) in 1909, but provided instruction to medical graduates only.
[17] Dundjerski, 110-111.
[18] Dundjerski, 111.

Affairs (VA). The land was mostly undeveloped except for a City of Los Angeles fire station constructed in 1942 to serve the VA facilities.[19]

Nationally, the VA was overwhelmed with returning veterans to care for after World War II, and started to form relationships with local medical schools across the country while expanding into medical research to better serve veterans.[20] It was mutually beneficial for UCLA and the VA to pool their resources and share staff, facilities, and expertise as they each developed their modern medical programs. In 1948, Congress authorized the VA to transfer the land to the State of California for use by the University of California as a research and medical center and associated purpose. The land would revert back to the United States if it was no longer used as a medical and research center.[21]

Figure 36: Sanborn map from 1926 showing the parcel that would become the West Medical Campus (dashed outline) in relation to the UCLA and VA lands. The four original buildings at the core of UCLA's main campus is marked by the red outline. Source: Sanborn Map, 1926, edited by Page & Turnbull.

Development on the C&H Tract had to wait; building the medical school was the first priority. Funds for the medical school were secured in 1946 from the state, but additional funds for the hospital were raised from alumni donors and local doctors. UCLA campus Supervising Architect Welton Becket and Associates designed the medical school and hospital as one massive

[19] Historic Resources Group, "Appendix A: Individual Resources, Westwood Community Plan Area," In *SurveyLA Historic Resources Survey Report*, prepared for the City of Los Angeles Department of City Planning Office of Historic Resources, (2015), 49.
[20] Marguerite T. Hays, *A Historical Look at the Department of Veteran Affairs Research and Development Program* (Baltimore: Veterans Health Administration, Research, Development, 2010), 90-91.
[21] U.S. Congress. Finance Committee, *Land Transfer—Los Angeles, California*, 80th Cong., 2nd sess. H.R. 6716, (1948).

complex in a double-cross style known as the Cross of Lorraine that could be expanded in multiple directions.[22] Groundbreaking occurred in 1949 but the outbreak of the Korean War delayed construction, as did the ever-expanding scope. In the meantime, the first medical class started in 1951 in temporary facilities like relocated surplus Army barracks. Clinical studies were conducted at the VA's facilities nearby and in Long Beach, as well as the Los Angeles County Harbor Hospital (later Los Angeles County Harbor-UCLA Medical Center).[23] The comprehensive medical school and hospital known as the UCLA Medical Center opened to patients in 1955. It was the first medical school in the United States in over 20 years and the first medical facility of the Atomic Age.[24]

Planning and construction of additional wings continued after the medical center's opening, including wings for the nursing and dental schools, a student health center, and the Neuropsychiatric Institute.[25] The first building planned for the West Medical Campus at the C&H Tract was announced in 1958 **(Figure 37)**. It was to house the UCLA Atomic Energy Project, renamed the Laboratory for Nuclear Medicine and Radiation Biology (Warren Hall).[26] The program started in 1947 with federal research funding from the Atomic Energy Commission but had been located in temporary buildings on the main campus. A Rehabilitation Center, eight years in the planning, was also announced for the C&H Tract in 1958. The rehabilitation hospital would have classrooms, library, therapy clinics, and research facilities for disabilities.[27]

[22] Dundjerski, 112.
[23] Dundjerski, 112.
[24] Dundjerski, 115.
[25] Dundjerski, 115.
[26] "UCLA Unit Will House Atom Work," *Los Angeles Times*¸ March 23, 1958 and "Huge Nuclear Medicine Unit to Be Built at UCLA," *Los Angeles Times*, December 14, 1958.
[27] "$4,000,000 Health Unit Set at UCLA," *Los Angeles Times*, December 7, 1958.

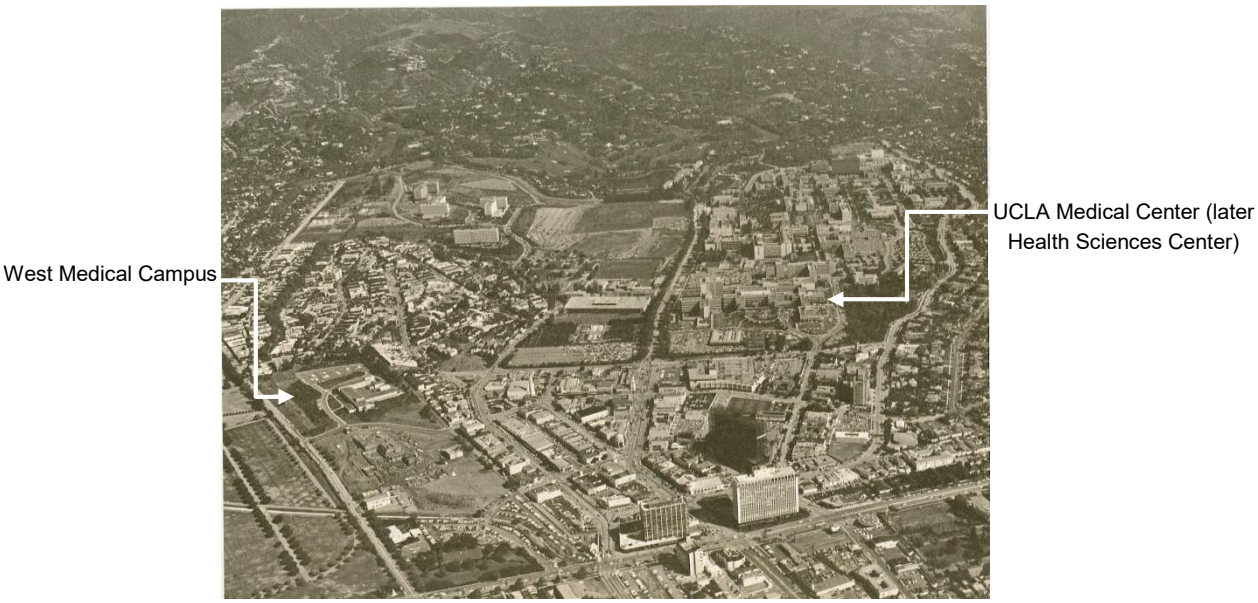

Figure 37: Aerial photograph of UCLA campus in 1963. Note Warren Hall's location on the hill and the Rehabilitation Center under construction at the West Medical Campus. Source: UCLA Long Range Development Plan, 1963.

The Laboratory for Nuclear Medicine and Radiation Biology building opened in 1961 (renamed Warren Hall in 1965), while the Rehabilitation Center opened in 1965. A central heating and cooling plant was completed in 1961 to serve these and other West Medical Campus buildings. The 1963 Long Range Development Plan (LRDP) described the West Medical Campus as providing space for long-term projects to supplement the medical school's graduate and research programs, to provide facilities that could benefit the community, and to address chronic rather than acute diseases. It also listed future projects as expanding the Rehabilitation Center and adding a high-rise hospital complex, a child guidance center, and a laundry building.[28]

Few of these projects were built. Instead, the medical center on the main campus, renamed the Health Science Center, became increasingly more concentrated as additional facilities were built close to campus. One additional medical facility, the Mark Taper Center for Health Enhancement was added at the West Medical Campus in the early 1980s, and other campus-related facilities such as the Capital Planning Building, Employee Credit Union, and a parking structure were also built by 1990. However, much of the land remained surface parking lots.[29]

With other, more pressing needs for the growing university, plans changed for the West Medical Campus land. In 1983, the university received Congressional modification on the 1948 deed transfer that allowed the land be used for educational or cultural purposes, in addition to the research and medical center.[30] Renamed the Southwest Zone in the 1990 LRDP, the university sought to develop a housing village on the land to serve the campus population and to better

[28] Campus Planning Committee and Office of Architects and Engineers, UCLA Long Range Development Plan (Los Angeles: University of California, Los Angeles, 1963), 22.
[29] Campus Planning and Office of Architects and Engineers, UCLA Long Range Development Plans (Los Angeles: University of California, Los Angeles, 1990), 68-69.
[30] U.S. Congress. Finance Committee. 80th Cong., 2nd sess. H.R. 6716, (1948).

connect the university's presence to Wilshire Boulevard.[31] The first phase of the Weyburn Terrace complex of graduate student housing was built around Warren Hall in the early 2000s and opened in 2004. Currently, the former West Medical Campus land has the 1960s Warren Hall and Rehabilitation Center, the 1940s Los Angeles Fire Station, the Capital Programs Building, the multi-story complexes of housing, the Science and Technology Research Building, and a parking structure.

NUCLEAR MEDICINE AND RADIATION BIOLOGY

Nuclear medicine, also known as atomic medicine, is a broad term involving the use of radioactive materials in medicine. The discovery of radioactive matter by pioneers like Henri Becquerel and Marie Curie in the late 19th century spurred study into the nucleus of atoms as the beginning of nuclear science. One tract of research was the medical use of radioactive material, which is when the decay of the nucleus emits different particles and alters the atom into a different chemical element.

Studies in the early 20th century using radium (a radioactive chemical element) to treat tuberculosis opened the possibilities of radioactive material as medical treatments. However, it was not until the 1930s that nuclear medicine gained traction. Scientist George de Hevesy created a way to detect and measure the half-life of radioactive decay (called radiotracers) in the bloodstream. This opened the possibilities for more non-invasive ways to diagnose ailments.[32] Also in the 1930s, John Lawrence at the University of California, Berkeley first treated leukemia patients with a radioactive isotope, and became known as the father of radio-pharmaceuticals.[33] Other advances, like the ability to artificially produce radioactive material, helped the field grow for both treatment and diagnostics.

During World War II, the United States government's Manhattan Project to study and ultimately develop atomic weapons included a parallel tract of nuclear medicine research. The Manhattan Project's Medical Division was started to ensure worker safety around radioactive materials as well as to understand the effects of radiation exposure in humans and all natural life, including survival times and physiological changes (later known as radiation biology).[34]

The world entered the Atomic Age after the atomic bombing of Hiroshima and Nagasaki ended World War II. Both the possibilities and the dangers of nuclear materials occupied the public imagination. Debates about whether nuclear materials should remain in military or civilian hands ensued. The Manhattan Project's Medical Division staff, led by its Chief Medical Officer Dr. Stafford Warren, felt strongly that their research had significant public benefit and should be continued in an unclassified, civilian manner. Peace initially prevailed and in 1946, Congress

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[31] Campus Planning and Office of Architects and Engineers, UCLA Long Range Development Plans (Los Angeles: University of California, Los Angeles, 1990), 68.
[32] Radiological Society of North America (RSNA) and American College of Radiology (ACR), "General Nuclear Medicine," accessed December 06, 2016, http://www.radiologyinfo.org/en/info.cfm?pg=gennuclear.
[33] Jeffrey Kahn, "Our History: From Particle Physics to the Full Spectrum of Science," History of Berkeley Lab, , accessed November 05, 2016, http://www2.lbl.gov/Science-Articles/Archive/history-of-lbl.html.
[34] Timothy Lenoir and Marguerite Hays, "The Manhattan Project for Biomedicine." in *Controlling our Destinies: Historical, Philosophical, Ethical and Theological Perspectives on the Human Genome Project*, ed. Philip R. Sloan (Notre Dame: University of Notre Dame Press, 2000).

formed the United States Atomic Energy Commission (AEC) to facilitate the transition of government research to the public sector and to "control the peacetime development of atomic science and technology."[35]

As one of the only sources of radioactive materials, the AEC directed the labs at the Manhattan Project's Oak Ridge (in Tennessee) and Los Alamos (in New Mexico) laboratories to distribute radioisotopes for academic and private research.[36] Starting in 1946, the AEC provided grants for applied medical and biological research to several institutions to continue their research, including the University of Chicago, University of Rochester in New York, University of Washington, Columbia University, and University of California, Berkeley as well as University of California, Los Angeles, where Dr. Warren became the dean of the new medical school.[37]

However, increasing tension of the Cold War in the late 1940s and early 1950s shifted the AEC's resources away from its initial peaceful intent toward weapons development. Several of the institutions that received postwar AEC grants transformed into regional national laboratories more focused on supporting the weapons program. While medical and biological research with nuclear materials continued at various institutions, they were overshadowed by the nuclear arms race. By 1953, the AEC funded only two programs exclusively dedicated to biochemical research: UCLA and the University of Rochester.[38]

On a parallel track outside of academics, the distribution of radioisotopes allowed private entities to commercialize the use of nuclear materials for medical purposes. Research contractors Tracerlab of Boston and Abbott Laboratories of Chicago began processing labs for radiopharmaceutical development by 1948. Clinical use of nuclear medicine treatments started in the 1950s and the Food and Drug Administration (FDA) approved the first radiopharmaceutical for treating thyroid patients.[39] On the diagnostic side, the first commercialized gamma camera, or scintillation camera, was produced to observe radioiodines and shortly thereafter, a photorecording device was invented, becoming the early stages of today's modern imaging. By the mid-1950s, nuclear testing demonstrated the destructive power of nuclear weapons, but also their radioactive fallout and damaging effect on living matter that medical researchers documented. Growing public fear led eventually to test bans and a renewed focus on the peaceful uses of nuclear science. Nuclear medicine and other non-military uses, such as nuclear energy that also started to develop in the 1950s, gained greater prominence and funding from the AEC in the late 1950s and 1960s.[40]

The 1960s and 1970s saw more breakthroughs in the field both in the use of radiopharmaceuticals for treating diseases and in developing non-invasive diagnostics imaging tools. Today, such diagnosis tools as magnetic resonance imaging (MRIs), and computed

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[35] Alice Buck, *The Atomic Energy Commission*, report, United States Department of Energy (1983).
[36] Lenoir and Hays.
[37] Lenoir and Hays.
[38] William S. Barton, "Life-Saving Aim in UCLA Atom Study". *Los Angeles Times*, April 6, 1953.
[39] "Historical Timeline," Society of Nuclear Medicine and Molecular Imaging, accessed October 04, 2016, http://www.snmmi.org/AboutSNMMI/Content.aspx?ItemNumber=4175.
[40] Buck, 10, 13.

tomography (CT) scans are part of nuclear medicine, as are treatment procedures like radiation therapy for cancers and radioimmunotherapy (RIT). By the 2000s, over 16.9 million nuclear medicine procedures were being performed in the US.[41]

DR. STAFFORD L. WARREN

Dr. Stafford Leak Warren (1896-1981) is known as one of the pioneers in nuclear medicine. Born in Maxwell, New Mexico, he earned his Bachelor of Arts from the University of California, Berkeley and medical degree from University of California, San Francisco in 1922. In 1926, he became a professor in the new field of radiology at the University of Rochester School of Medicine in New York.[42] He developed early mammogram procedures by tracking changes in the breast using a series of x-rays.[43]

During World War II, the director of the Manhattan Project approached Dr. Warren to act as a consulting monitor on the effects of radiation on the Manhattan Project's personnel. A colonel in the Army Medical Corps, he was soon promoted to Chief Medical Officer for the Manhattan Project's Medical Division and oversaw research at several facilities that were participating in research for the project. After the bombings of Hiroshima and Nagasaki, Dr. Warren's team surveyed the bombed areas and the effects on survivors. He also chaired the interim Medical Advisory Committee of the Atomic Energy Commission (AEC), which was formed by Congress to take over the federal nuclear program from the Manhattan Project. During his tenure in 1946-47, Warren was instrumental in setting the AEC's priorities to fund research at universities that could extend the research started by the Medical Division and train medical professionals in the new field.[44]

In 1947, Dr. Warren was offered the deanship to form the new UCLA Medical School. Under Dr. Warren, the school became a new model for physician training with an integrated teaching hospital, associated research institutes, and the university's science departments all together on campus as a collaborative health science center.[45] He also taught as a professor of biophysics at UCLA, a relatively new field that combined the physics from nuclear science with biological studies. With Dr. Warren's involvement with AEC, the commission funded an Atomic Energy Project at UCLA, of which Dr. Warren directed.

Dr. Warren remained the medical school dean until 1961, when he became Vice Chancellor for Health Sciences at UCLA. After retiring from the school in 1963, he was appointed by President John F. Kennedy as White house special assistant on mental retardation. He served on the National Advisory Health Council from 1962 to 1966. Following his time in Washington, D.C., Dr. Warren returned to UCLA, and maintained a laboratory appropriately in Warren Hall, constructed in 1961 to house the Laboratory for Nuclear Medicine and Radiation Biology that continued the

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[41] "Historical Timeline," Society of Nuclear Medicine and Molecular Imaging, accessed October 04, 2016, http://www.snmmi.org/AboutSNMMI/Content.aspx?ItemNumber=4175.
[42] Ron Harris. "Physician Who Founded UCLA Medical School Dies." *Los Angeles Times*, July 28, 1981.
[43] Richard H. Gold, "History of Breast Imaging" In *Diagnosis of Diseases in the Breast*, by Bassett, Lawrence Wayne; Jackson, Valerie; Fu, Karin L; et al. (Philadelphia: Saunders, 2005).
[44] Lenoir and Hays.
[45] "History," UCLA School of Medicine, accessed October 21, 2016, http://medschool.ucla.edu/history.

Atomic Energy Project he brought to UCLA in 1947; the building was named in his honor in 1965.[46]

In 1972, Dr. Warren received the Enrico Fermi Award from the AEC for, “especially meritorious contributions to the development, use and control of atomic energy.”[47] He was also a recipient of the Distinguished Service Medal and Legion of Merit for World War II service.[48] Until his passing in 1981, he had been conducting experiments on the treatment of arthritis in his laboratory at Warren Hall.

[46] University of California Academic Senate, "Stafford L. Warren, Biophysics: Los Angeles." *University of California: In Memoriam,* (1985). Accessed October 20, 2016. http://texts.cdlib.org/view?docId=hb4d5nb20m&chunk.id=div00170&brand=calisphere&doc.view=entire_text.
[47] Harris.
[48] Walter Sullivan, "Stafford L. Warren Dies: Nuclear Safety Pioneer." *New York Times*, July 29, 1981.

V. SITE HISTORY

HISTORY OF THE PROPERTY

Warren Hall is on the land previously known as the C&H Tract that was deeded to UCLA by the federal government in 1948 for use as a research and medical center. The building occupies the northern third of the 33-acre property, which was undeveloped prior to Warren Hall. In 1958, plans were announced for a new building on the site to house UCLA's Atomic Energy Project.

The project originated in 1947 when UCLA received a $250,000 grant from the newly formed federal Atomic Energy Commission (AEC) to continue medical research related to nuclear materials conducted during the Manhattan Project.[49] The UCLA Atomic Energy Project was established, in part because Dr. Stafford L. Warren, former director of the Manhattan Project's Medical Division, and chair of the AEC's interim Medical Advisory Committee in 1946, recently became the dean of the new UCLA Medical School.[50] The project gave UCLA, "equal research status in this field with the Berkeley campus, University of Rochester, Chicago University and New York's Brookhaven Medical Center," as the institutions that received AEC research grants.[51]

The UCLA Atomic Energy Project was directed primarily at safeguarding the public against the effects of radiation.[52] It made important discoveries, some of it classified, about the effects of radiation on living beings, from humans to animals to plant life. For example, it showed that radiation can linger in crops and become part of the food cycle, and that bone marrow can recuperate and start making blood cells again after being exposed to radiation.[53] Its researchers surveyed the fallout effects of AEC nuclear testing in Nevada, and it offered training course to physicians from the western United States in atomic medicine and radiological defense, who could in turn prepare others in these topics.[54] In addition, the research conducted by the Atomic Energy Project was important in establishing the foundation of the nuclear medicine field, including the invention of the scintillation scanner by Dr. Benedict Cassen. By being able to plot radioisotopes introduced in a patient, the scintillation scanner was an early nuclear imagining tool.[55]

As with UCLA's nascent medical school and sciences programs, the UCLA Atomic Energy Project was housed in temporary buildings on the main campus until a permanent building could be constructed. A decade after it started, a new building was approved for the project in 1958 at the off-campus land acquired from the VA. Designed by the Pasadena-based architecture firm Neptune & Thomas, $2.5-million-dollar building, called the Laboratory for Nuclear Medicine and

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[49] Lenoir and Hays.

[50] William S. Barton, "Life-Saving Aim in UCLA Atom Study," *Los Angeles Times*, April 6, 1953.

[51] "U.C.L.A. to Get Atomic Medical Study Facility," *Los Angeles Times*, August 16, 1947 and Buck, 4-5.

[52] "Success in UCLA Atom Work Listed," *Los Angeles Times*, November 7, 1957.

[53] William S. Barton, "Crop Danger Seen Due to Atomic Tests," I, June 7, 1953 and "Tests Show Body Ability to Withstand Radiation," *Los Angeles Times*, February 21, 1957.

[54]"Success in UCLA Atom Work Listed," *Los Angeles Times*, November 7, 1957, "Facing War of Future: 'Atomic Medicine' Course Opened," *Los Angeles Times*, August 3, 1948, "UCLA to Start Radiological Defense Course," *Los Angeles Times*, March 27, 1950.

[55] George V. Taplin, Norman S. MacDonnel, O.R. Lunt, "Benedict Cassen, Biophysics: Los Angeles," *University of California: In Memoriam* (1975).

Radiation Biology, as the Atomic Energy Project had been renamed, had offices and laboratories for 150 staff persons, and included "animal quarters, radiation and related laboratories, shops, a library, offices, and conference and lecture rooms," in addition to a greenhouse for plant research.[56] Landscape architecture firm Cornell, Bridgers & Troller designed the landscape for the building, including the circulation to and around the building and plant selections; the firm was also UCLA's campus landscape architect. Welton Becket & Associates was listed on the plans as the supervising architect.

Though the building did not have a nuclear reactor, which was with the physics department elsewhere on the UCLA campus, it did have a radiation facility with five-foot-thick concrete walls and a 20-thousand-pound steel door to house a 10,000 curie radioactive cobalt source.[57] The AEC's commitment of a 25-year contract to fund the laboratory gave the university conference to build the building.[58]

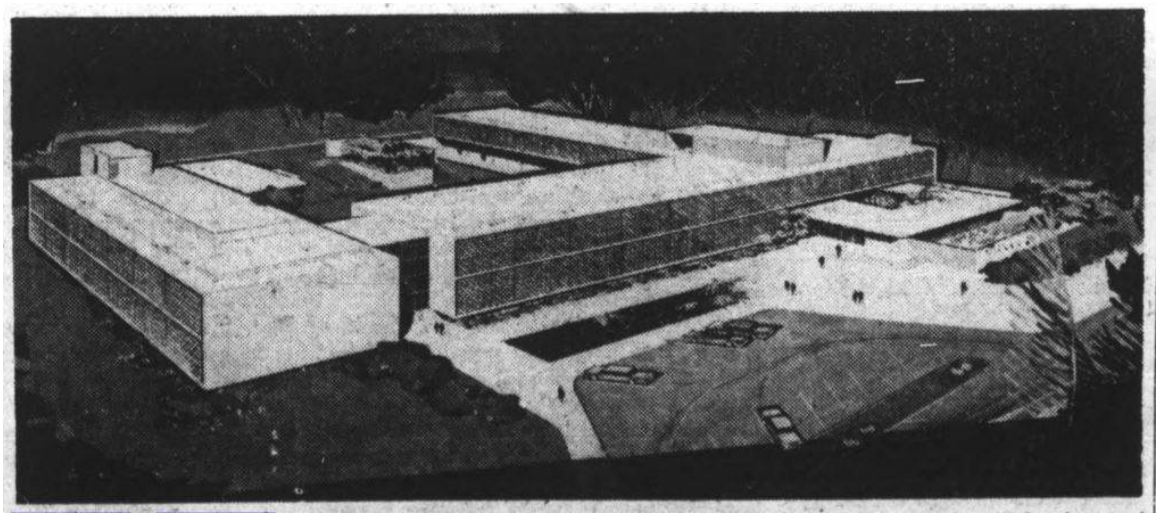

Figure 38: Rendering of the new building proposed to house the Atomic Energy Project in 1958.
Source: *The Daily Bruin,* December 11, 1958.

The building opened in July 1961 with an address at 900 Veteran Avenue. As the first building constructed for the West Medical Campus, Warren Hall sat alone overlooking Veteran Avenue for many years. The laboratory continued the UCLA Atomic Energy Project's activities in "(1) studying radiation effects on biological systems, (2) combating detrimental effects of radiation injury, (3) developing beneficial application of atomic energy in medicine, and (4) investigating biomedical problems in atomic energy field tests and in the operation of AEC facilities."[59]

Over the following decades, the staff at the Laboratory for Nuclear Medicine and Radiation Biology continued to contribute significant advancements in both the fields. In 1964, Dr. George Taplin developed a way to image the lungs to detect lung cancer, pulmonary embolisms, and to

[56] "Radiation Lab is Among 5 New Buildings in Use at UCLA," *Los Angeles Times*, September 24, 1961, WS6.
[57] "Open House Slated for Nuclear Medicine Lab," *Los Angeles Times*, March 29, 1962, J1.
[58] Ibid.
[59] "Atom Facility Plans Ready Soon." *Daily Bruin*, December 11, 1958.

diagnose a heart attack.[60] Dr. Norman French in 1967 determined that even small amounts of exposure to radiation affect animals, including shorter life span and reproductive difficulties.[61] In 1976, the laboratory continued to perfect the art of nuclear imaging. Dr. Z.H. Cho developed a system for three-dimensional imaging, through sectional slices, using radioactive isotopes distributed within the organs.[62]

To honor the initiator of the program and to celebrate his achievements, the building was renamed in 1965 after then Vice Chancellor Dr. Stafford Warren; the Laboratory of Nuclear Medicine and Radiation Biology as a program continued to be housed in the building.[63] The 1967-68 course catalog described the laboratory as conducting:

> research in the fields of biophysics, nuclear medicine, biochemistry, radiation biology, and ecology. It is funded through a contract with the Atomic Energy Commission. Most of the program is conducted in Warren Hall, located on the West Medical Campus. The laboratory is administratively related to the Department of Biophysics.
>
> Warren Hall is well equipped with modern research tools including a cobalt radiation source with an activity of 10,000 curies at the time of installation. The laboratory staff consists of over 200 scientists, technicians, and supporting personnel representing many disciplines: biophysicists, biochemists, physicians, physicists, physical chemists, electron-microscopists, biologists, soil scientists, plant physiologists, ecologists, and spectroscopists.[64]

The laboratory continued to receive funding from the federal government in the form of the Energy Research and Development Administration (ERDA) from 1975 to 1979, which assumed the research and development functions of the shuttered Atomic Energy Commission. The ERDA later became part of the Department of Energy (DOE), formed in 1977. As moral and ethical concerns started to be raised about nuclear science, including medical research and experimentation, the UC Regents established the Oversight Committee in 1980 to supervise the four UC laboratories funded by the DOE, including the Laboratory for Nuclear Medicine.[65]

The Laboratory of Nuclear Medicine and Radiation Biology continued to operate under that name in Warren Hall until 1981. By then, the laboratory's research field has expanded to include biomolecular and cellular science, environmental biology, and nuclear medicine. Research and training in nuclear medicine was still done by the laboratory, but was being conducted at the Center for Health Sciences on the main UCLA campus in addition to Warren Hall. Given its shift

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[60] "Radioactive Substance Forms Lung 'Picture'," *Los Angeles Times*, April 20, 1964, 24.

[61] "Radiation---Even Tiny Amounts---Can Play Havoc in Animal Life," *Los Angeles Times*, October 15, 1967, WS2.

[62] "UCLA Lab Developing Nuclear Medicine Camera" *Los Angeles Times*, June 24, 1976, WS4.

[63] "UCLA Buildings Named for Ex-Professors," *Los Angeles Times*, November 7, 1965, WS2.

[64] University of California, Los Angeles, *UCLA General Catalog 1967-1968 Issue* (Los Angeles 1967), 18.

[65] William Trombley, "Panel to Supervise Nuclear Lab Work" *Los Angeles Times*, November 22, 1980, C1. The University of California also oversaw the Lawrence Berkeley National Laboratory (previously the University of California Radiation Laboratory) at UC Berkeley, Los Alamos National Laboratory in New Mexico, where the first atomic bomb was detonated, and the Lawrence Livermore National Laboratory in Livermore, California.

in research field, the laboratory changed its name to the Laboratory of Biomedical and Environmental Sciences in 1981 while it remained in Warren Hall.

The laboratory name changed again in 1994 to the UCLA-DOE Laboratory of Structural Biology and Molecular Medicine, when its research fields also included structural biology and genetics. By 1995, it had moved into the Molecular Biology Institute at the Center for the Health Sciences and was no longer at Warren Hall. Today, Warren Hall is occupied by the Center of Human Nutrition, specifically the program to study Risk Factor Obesity Weight Management. The DOE continues to fund research at UCLA today with the UCLA-DOE Institute, which conducts research in health and environmental sciences, though no longer in Warren Hall.

Alterations

It appears Warren Hall has undergone few exterior alterations since its construction. A disabled access ramp and other upgrades were installed around 1999, and the building was re-roofed around the same time. An addition to the radiation facility area was built at an unknown date. Some internal alterations have occurred, including adding and removing walls between offices and/or laboratories, updating interior finishes, and converting a library into a research kitchen for the nutrition program.

While the building itself has not undergone many renovations, the area surrounding the building has changed substantially. Long the lone building on a hill surrounded by parking lots and open space, Warren Hall became surrounded by new multi-story graduate housing built in the early 2000s so that it is no longer visible from Veteran Avenue or Weyburn Avenue. In 2004, the one-story Hillblom Islet Research Center was built at the southeast corner of the Warren Hall site, next (but not connected) to the south wing.

VI. ARCHITECTURE CONTEXT

MIDCENTURY MODERN

Midcentury Modern is a term referring to the architecture and design of the period following World War II. It is mainly a derivation of the International Style and is often less formal, with more variations to reflect local conditions. The International Style was rooted in the Modern Movement that emerged out of Europe in the prewar years and marked a major aesthetic shift in architecture in the rejection of historic precedents. Like the International Style, Midcentury Modern emphasized functionalism, rationalism, and technological innovation, but was less strict about only rectilinear shapes, the use of glass and steel, and the lack of ornamentation. In Southern California, Midcentury Modern encompassed the concrete and plywood works of Rudolph Schindler, the organic and geometric shapes of John Lautner, and the clean, open designs of Gregory Ain, Buff and Hensman, A. Quincy Jones, Smith and Williams, and others who incorporated natural materials like wood, texture screens, and other decorative elements that was not strictly the International Style.

Midcentury Modern is characterized by clear expressions of structural forms, smooth wall surfaces, flat roofs, geometric shapes, intersecting volumes, and extensive use of glazing made possible by advances in glass and building technology. Sunshading, in the form of overhanging eaves, perforated screens with geometric designs, and brise soleils or louvers, was also a distinctive feature in Southern California.

NEPTUNE & THOMAS

Architects Donald E. Neptune and Joseph F. Thomas formed the Pasadena-based architecture firm Neptune & Thomas Associates in 1953. Donald Eugene Neptune (1916-2009) was born in San Diego, received his bachelor degree from University of California, Berkeley in 1940, and joined the US Naval Reserve during World War II. He worked as a draftsman for Los Angeles architects Russell E. Collins and Ralph C. Flewelling in the 1940s before starting his own practice with John S. Gregory from 1951 to 1953 called Neptune & Gregory.[66] Together, they designed the Twentynine Palms Marine Corps Training Facility, known as “one of the first military installations on the West Coast where precast [concrete] has been used extensively.”[67]

Joseph Fleishman Thomas (1915- unknown) was from West Virginia and received his bachelor degree from Carnegie Mellon University (formerly Carnegie Tech) in 1938.[68] He briefly worked in Los Angeles as a draftsman for Wurdeman and Becket, and Heitschmidt and Matcham. His first architectural license was acquired in West Virginia in 1941, though he worked as an architect at that time for the New Deal’s Tennessee Valley Authority. Thomas joined the US Navy during World War II and served from 1943-1946. After the war, he moved to California where he became

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[66] "Donald E. Neptune," Pacific Coast Architecture Database, accessed November 22, 2016, http://pcad.lib.washington.edu/person/1154/. and "Neptune & Thomas Associates," Modern San Diego, accessed November 02, 2016, http://www.modernsandiego.com/NeptuneThomas.html.

[67] "Marine Corps Training Facility," *Architect and Engineer* (1953): 46, accessed November 18, 2016. https://archive.org/details/architectenginee19253sanf.

[68] It is not known if Joseph Thomas is deceased. No obituary or date of passing has been found.

the Chief Project Architect for Kistner, Curtis, and Wright from 1947 to 1949 and then worked for the State of California, Division of Architecture from 1949 to 1952.[69] Thomas started his own practice for a year before partnering with Neptune.

The architects met each other in Pasadena in the late 1940s and were founding members of the Pasadena & Foothill chapter of the AIA in 1948.[70] In 1953, Neptune and Thomas combined their practices in an effort to better pursue educational projects together.[71] Their local education projects in the 1950s and 1960s included high schools for Azusa, Glendora, Pasadena, Fountain Valley, and Huntington Beach. The high schools were typically designed as California Modern schools: one-story linear buildings with bands of window walls organized around interior courtyards.

Though much of their work is largely educational, they also produced residential, institutional, and civic projects. As mid-century architects, their earliest work exemplifies the architecture of the period using simple concrete forms, tilt-up panels, and a variety of textures at floors and walls. Their Pasadena office, built in 1955, is Midcentury Modern in design, demonstrating an open office concept and playing with indoor-outdoor space. Their Methodist Hospital of Southern California, built in 1957 in Arcadia, also explored relationships of interior-exterior space in plan with enclosed patios separated by use for patients.[72]

Figure 39: Methodist Hospital of Southern California (1957) in Arcadia by Neptune & Thomas. Source: Julius Shulman Photography Archives. Copyright The J. Paul Getty Trust. The Getty Research Institute, Los Angeles.

Figure 40: York Hall (1966) at UC San Diego by Neptune & Thomas. Source: Darren Bradley, Modern San Diego.

The firm pursued larger civic and institutional projects in the 1960s that were diverse in design from its previous work and in keeping with the changing architectural styles of the period. These included their higher education work with several science facilities, such as the Laboratory for

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[69] "Joseph F. Thomas," Pacific Coast Architecture Database, accessed November 22, 2016, http://pcad.lib.washington.edu/person/1155/.

[70] AIA Pasadena & Foothill, *Quarterly Newspaper: The Joseph F. Thomas Founders Award* (2010), accessed November 02, 2016. http://www.aiapf.org/?85.

[71] Ibid.

[72] 2016. https://archive.org/details/architectenginee19253sanf.
"General Hospital with Unique Psychiatric Unit," *Architectural Record* (1957): 202-203.

Nuclear Medicine and Radiation Biology (Warren Hall, 1961) and the physics building (Knudsen Hall, 1963) at UCLA, the chemistry and biochemistry building at UC San Diego (York Hall, 1966) and the High Energy Physics Laboratory (1969) at California Institute of Technology. These designs were more expressionistic and often had perforated screen walls.

The Pasadena Courthouse, finished in 1970, was designed in a New Formalist style whereas the West Covina Civic Center and Citrus College's Haugh Performing Arts Center, both completed 1969, were designed as Brutalist and Late Modern. In the 1970s, the firm expanded with branch offices in San Diego and Irvine. In 1978, Neptune and Thomas retired and turned the firm over to junior principals.[73]

CORNELL, BRIDGERS & TROLLER

The firm Cornell, Bridgers &Troller was the landscape architect for the Laboratory of Nuclear Medicine and Radiation Biology. The firm was founded in 1955 by Ralph Cornell (1890-1972), one of California's leading landscape architects, who had worked in solo practice between 1933 and 1955. Junior partners S. William Bridgers and Howard E. Troller joined Cornell in 1955. As Cornell, Bridgers & Troller, the firm was responsible for the landscape design of several prominent sites in Los Angeles, including several in downtown such as Parker Center, the Department of Water and Power Building, the Music Center, and the Civic Center Mall and completed hundreds of projects for city parks (Beverly Gardens, on the north side of Santa Monica Boulevard, Beverly Hills) and colleges (Pomona College). Cornell and the firm had a long working relationship with Welton Becket and Associates. Cornell oversaw development of other universities and colleges, but was responsible for the UCLA campus landscape from 1937 until his death in 1972. Among the firm's finest work is UCLA's Franklin D. Murphy Sculpture Garden. Following the death of Ralph Cornell, the firm continued as Bridgers, Troller, and Hazlett Landscape Architects.

Cornell, Bridgers & Troller developed the full landscaping plan for the property, including site grading, sprinkler plans, road and site paving, and plant selection. They created a lunch patio at the building's south corner, adjacent to the intersection of the west and south wings, which no longer exists. They designed an exposed pebble concrete paver for the exterior paving that is no longer at the site, but remains in the interior "atrium."

WELTON BECKET AND ASSOCIATE

Welton Becket and Associates is listed as the supervising architect on the Neptune & Thomas plans for the Laboratory of Nuclear Science and Radiation Biology. Welton Becket (1902-1969) served as supervising and later consulting architect to UCLA, originally with his partner William Wurdeman (1903-1949). That consulting contract lasted from 1948 until 1960. Wurdeman & Becket (until 1949) and later Welton Becket Associates designed at least 21 buildings during their two-decade tenure. The first of that group was the Service Building (no longer extant) which was completed in 1948. Welton Becket Associates designed the original UCLA Medical Center and

[73] "Architects Turn Over Firm To Other Principals," *Los Angeles Times*, February 12, 1978, J25.

more than 1.5 million square feet of space in at least ten medical buildings at the Center for Health Sciences between 1954 and 1967.

Welton Becket and Associates often had a role in reviewing and commenting on the design of UCLA campus buildings during the schematic and design development phases, but their involvement with the Laboratory of Nuclear Science and Radiation Biology as the Supervising Architect on the project is unknown.

VII. EVALUATION

The following section concurrently examines the eligibility of Warren Hall for listing in the National Register and California Register:

- *Criterion A/1 (Events)*: Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

- *Criterion B/2 (Persons)*: Resources that are associated with the lives of persons important to local, California, or national history.

- *Criterion C/3 (Architecture)*: Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.

- *Criterion D/4 (Information Potential)*: Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the nation.

Criterion A/1 (Events)

Warren Hall appears to be eligible for listing under Criterion A/1 for the association with biomedical research funded by the Atomic Energy Commission (AEC) during the Cold War, and in the development of nuclear medicine as a field. In addition to weapons development and nuclear energy, the AEC funded medical and biological research to understand the impact of radiation on humans as well as the environment, and determine safe levels of exposure, among other things. Warren Hall was built specifically to house the Laboratory of Nuclear Medicine and Radiation Biology, which was an AEC-funded project begun in 1947 as the UCLA Atomic Energy Project for researching how to safeguard the public against the effects of radiation. The result of the research in turn helped to build the field of nuclear medicine in the safe use of nuclear materials for medical treatment and the development of nuclear imaging diagnostic tools.

UCLA was one of a handful of higher-education institutions across the country that received postwar AEC research funding and was one of two programs to continue that funding as the AEC's attention shifted to weapons development. UCLA received funding because of Dr. Stafford L. Warren, who was the Chief Medical Officer of the Manhattan Project and a key figure in the burgeoning nuclear medicine field, became the dean of UCLA's new medical school in 1947.

The Atomic Energy Project was located in temporary buildings until Warren Hall was purpose-built in 1961 to house the project, known by then as Laboratory of Nuclear Medicine and Radiation Biology. The Midcentury Modern building included radiation facilities to contain radioactive materials, as well as a greenhouse to study plant life. The building's construction reflected the AEC's commitment to and growing importance of nuclear medicine research.

Although the Atomic Energy Project's early years were not in Warren Hall, the Laboratory of Nuclear Medicine and Radiation Biology continued its research and made significant contributions to the nuclear medical field. By the mid-1970s, the AEC dissolved and the nuclear medicine field

had matured so that research was being conducted elsewhere at UCLA's Health Science Center and other institutions. The laboratory changed its name in 1981 to the Laboratory of Biomedical and Environmental Sciences, reflecting the change in its focus and the end of its period of significance.

Warren Hall best represents the involvement of UCLA with the early development of nuclear medicine as a field and with the AEC's efforts to study the biomedical effects of radiation in concert with its efforts at managing the country's nuclear program during the Cold War. As such, it meets the criteria for listing in the National Register and California Register under Criterion A/1. The period of significance for this criterion is 1961-1981 from the year of construction until the Laboratory of Nuclear Medicine and Radiation Biology became a different program.

Criterion B/2 (Persons)

Warren Hall does not appear to be eligible for listing under Criterion B/2 for the association with a significant individual. The building is named for Dr. Stafford L. Warren, who is a significant individual for his role in the development of nuclear science as a field, particularly as the Chief Medical Officer of the Manhattan Project's Medical Division, and as the founding dean of the UCLA Medical School. However, Dr. Warren's productive career did not occur at the subject building. He retired as the dean of the medical school in 1961 and became the Vice Chancellor for Health Sciences at UCLA just as the building was completed. Although Dr. Warren was a key factor in UCLA receiving AEC funding to start the Atomic Energy Project that ultimately became the Laboratory of Nuclear Medicine and Radiation Biology, that association predated the building.

As Warren Hall is not significant to the career of Dr. Warren, it does not meet the criteria for listing in the National Register or California Register under Criterion B/2.

Criterion C/3 (Architecture)

Warren Hall is also significant under Criterion 3/C as embodying the distinctive characteristics of the Midcentury Modern architectural style. It is organized as a series of interconnected volumes that reflects the functionalism of postwar modern design, with each volume type (main wings, circulation cores, entrance pavilion, etc.) representing a specific use and distinguished by its shape and materials. The most defining feature of the building is its perforated concrete screen walls, where its modular, geometric design is characteristic of Midcentury Modern design. Its Midcentury design is reinforced by the structural clarity seen in the exposed floor plates and the modular window wall system. The effect is striking, especially on the front (west) façade where the glazed connector and the entrance pavilion contrast with the concrete screens.

While reflective of the work of Neptune & Thomas, Warren Hall does not appear significant as an important work of the firm. Similarly, it is not a significant work of landscape architects Cornell, Bridgers & Troller, as much of the landscaping and site has been altered. As with other UCLA projects where their role is Supervising Architect, Warren Hall is not significant as a design of Welton Becket and Associates.

Warren Hall a good, representative example of Midcentury Modern architecture, possessing high artistic values and as such, it meets the criteria for listing in the National Register and California Register under Criterion C/3. The period of significance for this criterion is 1961, the year construction was completed.

Criterion 4 (Information Potential)

The "potential to yield information important to the prehistory or history of the local area" typically relates to archeological resources, rather than built resources. When Criterion D/4 does relate to built resources, it is for cases when the building itself is the principal source of important construction-related information. Based on historic research, Criterion D/4 is not applicable to Warren Hall.

INTEGRITY

Warren Hall has not been significantly altered since its construction. It has not been relocated and maintains its integrity of location. Its design has not been altered significantly. Its massing and intersecting volumes remain clearly visible and it still has all the components originally designed for nuclear medicine research in the radiation facilities and greenhouse. The small addition around the radiation facilities does not substantially affect the building's design. Warren Hall retains much of its original materials and workmanship, most notably in the flexboard window wall and concrete screen wall systems, as well as the vertically-oriented pattern on the concrete walls of the circulation cores and entrance pavilions. The building generally retains its feeling as a Midcentury Modern design, and as a postwar classroom and laboratory facility. Although the building no longer houses any nuclear medicine or Department of Energy programs, the building has not been substantially altered so that it is has lost its association with the important work of the Laboratory for Nuclear Medicine and Radiation Biology.

The setting around Warren Hall has changed substantially. The addition of multi-story apartments for graduate housing encircles the building, which once stood alone on a hill for many years and was visible from the surrounding streets. The housing also introduced a new street in Weyburn Terrace that altered the approach to the building and its circulation so that the front of Warren Hall is no longer easily accessible to the public. The construction of the Hillblom Islet Center at the rear of the site has also affected Warren Hall's setting, but to a lesser extent.

Overall, Warren Hall has lost its integrity of setting, but has retained enough elements in integrity related to its historic and architectural significance (location, design, materials, workmanship, feeling, and association) to be eligible for the National Register and California Register.

CHARACTER-DEFINING FEATURES

For a property to be considered historic, the essential physical features (or character-defining features) that enable a property to convey its historic integrity must be evident. To be eligible, a property must clearly contain enough of those characteristics, and these features must also retain a sufficient degree of integrity. This includes:

Character-defining features, which are those elements or architectural components that establish the visual character of the property.

Significant spaces, which are rooms or spaces that are important to a property because of their size, height, proportion, configuration, and function.

The character-defining features and significant spaces for Warren Hall include the following:

- Two-story, U-shaped plan with flat roof
- Massing as intersecting rectangular volumes
- Three linear wings
    - Concrete screens with geometric design
    - Visible edge of concrete floor plates with recessed base
    - Exterior window wall system set between structural bays
    - Scored concrete ends with minimal openings
- Circulation cores
    - Glazed connector between the north and west wings with walls of aluminum-framed glazing displaying a concrete stair
    - Vertically-patterned concrete walls
    - Open staircases
- Entrance pavilion
    - Glazed window wall at entrances
    - Vertically-patterned concrete walls that also appear on the interior
    - Exterior window wall system set between structural bays
    - Skylights
    - Floating stair and platform
- Thick, concrete walls in the radiation facility
- Greenhouse with its glazed and concrete walls, and glazed gable roof
- Original aluminum and steel windows throughout
- Interior
    - Double-loaded corridors
    - Concrete stair and railing at glazed connector
    - Original “atrium” space in the entrance pavilion
    - Aluminum-framed glazed wall with wood doors leading to the “atrium”
    - Pebble aggregate concrete paver floors and a concrete wall with vertical pattern in the “atrium”

VIII. CONCLUSION

Designed by Neptune & Thomas and completed in 1961, Warren Hall appears to be eligible for the National Register and California Register under criteria A/1 and C/3. Under Criterion A/1, the building is significant as the best representation of UCLA's involvement with the federal Atomic Energy Commission's biomedical research as well as the university's contribution to the development of the nuclear medicine field.

Under Criterion C/3, Warren Hall embodies the distinctive characteristics of the Midcentury Modern style with it prominent perforated concrete screen walls, structural clarity, modular construction, and use of concrete, glazing, and other modern materials. It was purpose-built as a laboratory and office building for the study of nuclear medicine and radiation biology, and retains the original radiation facilities with thick concrete walls and a greenhouse for studying plant life.

Although named for a significant individual, Dr. Stafford L. Warren, Warren Hall is not significant to Dr. Warren's career with his role as the Chief Medical Officer of the Manhattan Project's Medical Division, as a pioneer in the nuclear medicine field, or as the first dean of the UCLA Medical School. As such, it does not meet Criterion B/2 for the National Register or California Register.

Warren Hall has been minimally altered since its construction. A small addition around the radiation facilities was added at an unknown date, while a new one-story detached building for another center was built at the rear of the property in 2004. The building's setting has changed substantially with the construction of multi-story graduate housing on its once open hilltop site, but overall, Warren Hall retains sufficient integrity.

Overall, Warren Hall is eligible for listing in the National Register and the California Register, and would be considered a historic resource for the purposes of the California Environmental Quality Act (CEQA).

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X. APPENDIX

(To be completed)

- Selected original plans
- Newspaper articles

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UNIVERSITY EXTENSION BUILDING HISTORIC RESOURCE EVALUATION

UNIVERSITY OF CALIFORNIA, LOS ANGELES

[11124J]

Prepared for

UNIVERSITY OF CALIFORNIA, LOS ANGELES

PAGE & TURNBULL

imagining change in historic environments through design, research, and technology

DECEMBER 2016

UPDATED

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I. INTRODUCTION

PURPOSE OF THE REPORT

This Historic Resource Evaluation has been prepared to assess the historic significance of the University Extension Building (UNEX), located at 10995-10997 Le Conte Avenue in the city of Los Angeles **(Figure 1)**. The subject property occupies a parcel in the community of Westwood facing the southwest corner of the University of California, Los Angeles (UCLA) campus **(Figure 2)**. Opened in 1971, the building was designed by the noted Southern California architecture firm of Jones and Emmons, with UCLA campus landscape architect Cornell, Bridgers & Troller listed on the original plans, along with UCLA's consulting architect Welton Becket, F.A.I.A. The building currently houses the UCLA Extension program and is owned by UCLA. It is not currently listed in the National Register of Historic Places, the California Register of Historical Resources, or as a City of Los Angeles Historic-Cultural Monument.

Figure 1. South (left) and east (right) façade of the University Extension Building (UNEX) from the southeast corner of Le Conte Avenue and Gayley Avenue. Source: Page & Turnbull, 2016.

PROPERTY LOCATION AND DESCRIPTION

The subject property occupies a wedge-shaped parcel on Le Conte Avenue, set between Gayley Avenue – the western boundary of the contiguous UCLA campus – on the east, and Levering Avenue on the west **(Figure 3)**. Appropriately, given its community function, the building is adjacent to the main campus in Westwood Village, and is entered on the west via Levering Avenue. The property consists of a seven-story with partial ground level, Late Modern office building with a small parking lot on the west, a service driveway on the north, and landscaping on the public (west, south, and east) façades. Above the first and ground floors, all four façades are similar in design.

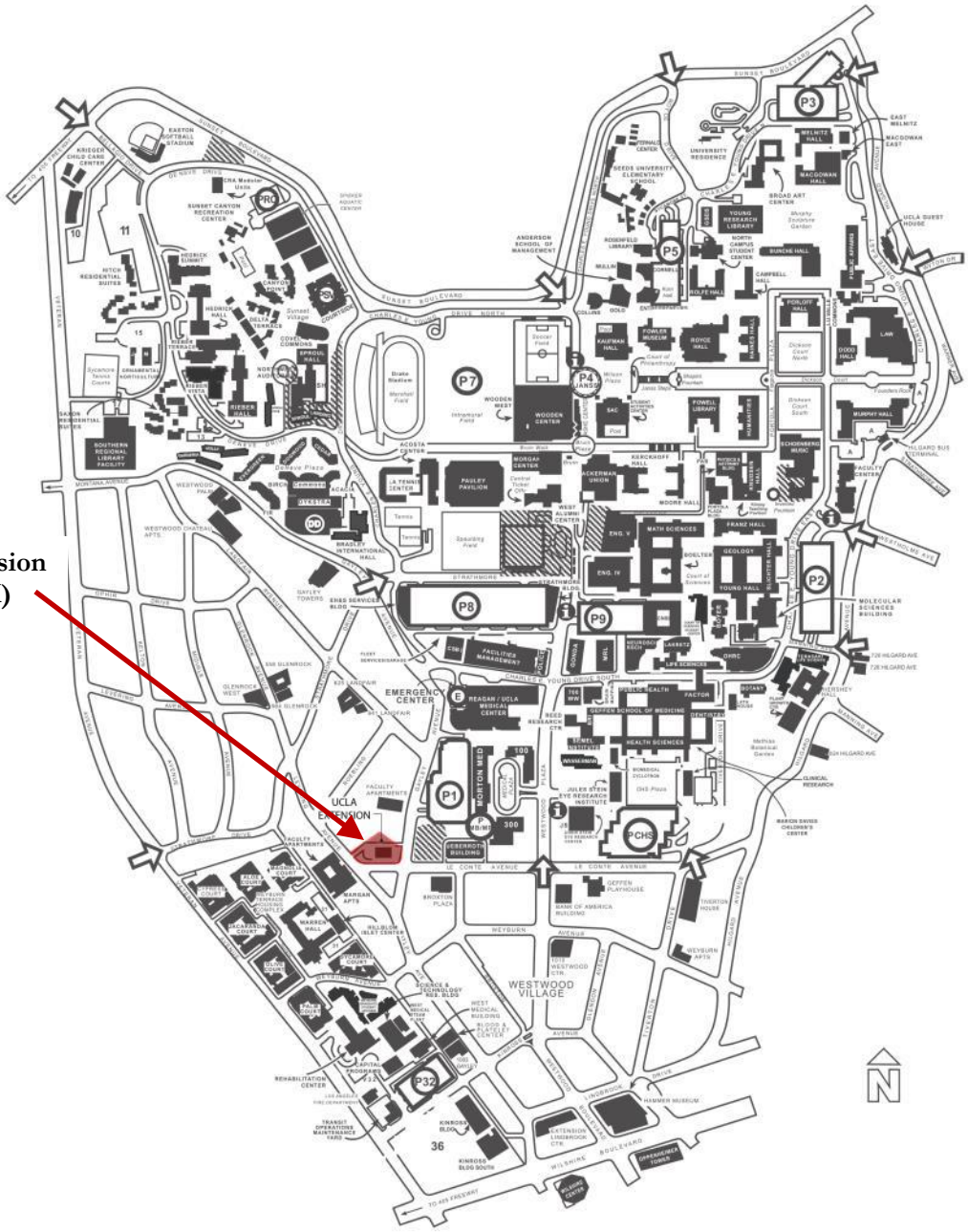

Figure 2. Campus Map. Source: UCLA, modified by Page & Turnbull.

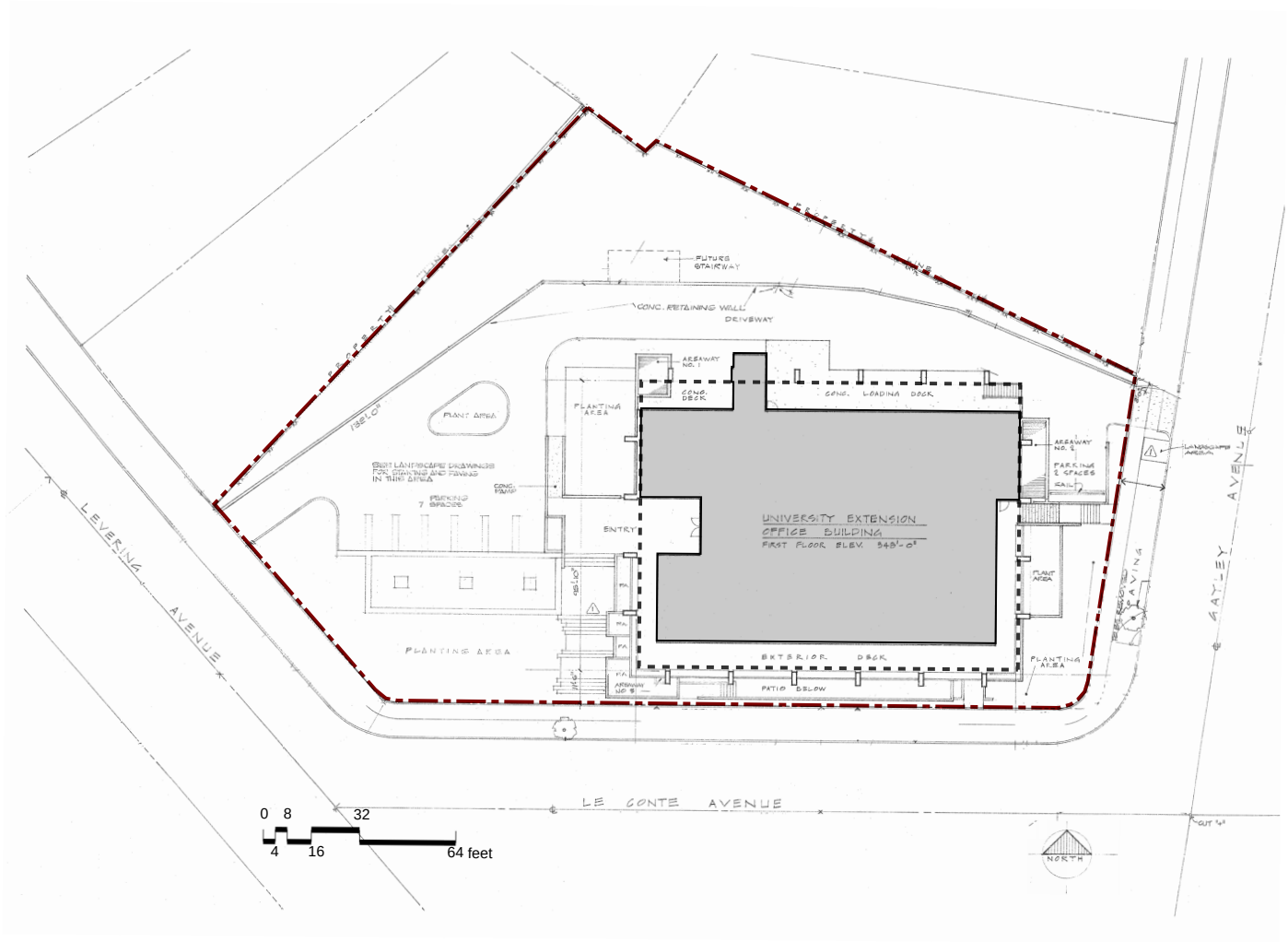

Figure 3. Site plan with the UNEX property outlined in red. The ground floor plan is shaded in gray and the typical upper floor plate is dashed. Source: Portion of 1971 As- Built Plot Plan (Sheet A-003 in 200B-5) prepared by Jones and Emmons, edited by Page & Turnbull.

METHODOLOGY

All applicable professional standards for the identification and evaluation of historic resources were utilized in the preparation of this historic assessment, including (but not limited to):

- Secretary of the Interior's Standards for Preservation Planning
- National Register Bulletin 24. Guidelines for Local Surveys: A Basis for Preservation Planning
- National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation
- Instructions for Recording Historical Resources (Office of Historic Preservation)

In order to prepare the historic assessment, several tasks were undertaken. A site visit was performed on August 5, 2013 and digital photographs were taken to document the current appearance of the property. Architectural plans and drawings dating from 1968 to 2003, made available by UCLA, were reviewed with a focus on the as-built drawings prepared by Jones and Emmons in 1971. Research resources available online were consulted, in particular the Avery Index of Architectural Periodicals, California Index, and the ProQuest Newsstand, the latter two part of the Los Angeles Central Library online collections. In addition, the A. Quincy Jones papers (Collection Number 1692) in the Department of Special Collections, Charles E. Young Research Library, UCLA, were examined to obtain historic photographs and review project briefs. Previously prepared historic narratives and contexts were examined to provide a historic context for the evaluation of the property. The property was evaluated for significance under applicable criteria, including those for the National Register of Historic Places (National Register) and California Register of Historical Resources (California Register).

In 2016, the evaluation was updated to address the SurveyLA results. The building was again documented through digital photographs in September 2016 and additional research conducted on the university work of Jones & Emmons and on Late Modern resources in Los Angeles.

SUMMARY OF FINDINGS

Despite the SurveyLA results, it is Page & Turnbull's professional opinion that UNEX is not eligible for listing in the California Register as a work of Jones & Emmons or an example of Late Modern architecture. The building is not an important or distinguished example of Jones and Emmons, who are better known for their Midcentury Modern homes. UNEX lacks the aesthetic balance and design clarity that characterized the firm's best works, especially in comparison to more notable university projects at US Santa Barbara (Biological Sciences Building, 1956-1959), UC Riverside (Carillon Tower, 1964-1966), and USC (Annenberg School for Communication and Journalism, 1970-1976, as A. Quincy Jones and Associates). In particular, the composition appears awkward with thin sunshades against large concrete bands, insufficiently deep or prominent piers, and a top-heavy parapet that is out of proportion with the building. While the building possesses characteristics typical of the Late Modern period in its symmetrical arrangement, glazed and solid components, and expressed structural elements, the whole composition is not a compelling design that rises to the level of California Register eligibility for its architecture.

The building is not yet 50 years old, and we concur that it is not of exceptional significance to meet Criterion Consideration G for the National Register. As such, Page & Turnbull finds the University Extension Building is not a historic resource under the California Environmental Quality Act (CEQA).

II. REGULATORY SETTING

This section describes the primary laws, regulations, and programs that govern the treatment of historic resources at the University of California Los Angeles, including criteria of significance for architectural and historical resources.

FEDERAL

National Register of Historic Places

First authorized by the Historic Sites Act of 1935, the National Register of Historic Places was established by the National Historic Preservation Act of 1966 as "an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment."[1] The National Register recognizes properties that are significant at the national, state and local levels. To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. Four criteria have been established to determine significance:

- Criterion A: Association with events or activities that have made a significant contribution to the broad patterns of our history;
- Criterion B: Association with persons significant in our past;
- Criterion C: Embodiment of the distinctive characteristics of a type, period, or method of construction or representation of the work of a master, or possession of high artistic values, or representation of a significant and distinguishable entity whose components may lack individual distinction; and/or
- Criterion D: Potential to yield information important in prehistory or history.

A property eligible for the National Register must meet one or more of these criteria. Typically, properties over 50 years of age may be eligible for listing in the National Register if they meet any one of the four significance criteria and if they retain sufficient historic integrity to convey that significance. Properties under 50 years of age may be determined eligible if it can be demonstrated that they are of "exceptional importance," under Criterion G. Additional criteria considerations apply to religious properties, moved properties, birthplaces or graves, cemeteries, reconstructed properties, and commemorative properties.

STATE

California Environmental Quality Act

Pursuant to the California Environmental Quality Act (CEQA), a historical resource is a resource listed in, or eligible for listing in, the California Register of Historical Resources (California Register). In addition, resources included in a local register of historical resources or identified as significant in a local survey conducted in accordance with state guidelines also are considered historical resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the California Register, or is not included in a local register or survey, shall not preclude a Lead Agency from determining that the resource may be a historical resource as defined in California Public Resources Code (PRC) Section

[1] *Code of Federal Regulations (CFR), 36 Section 60.2.*

5024.1. CEQA stipulates that a project with an effect that may cause a substantial adverse change in the significance of an historical resource may have a significant effect on the environment. CEQA further states that a project that conforms to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* may be considered to have an impact mitigated to a less-than-significant level.

California Register of Historical Resources

Created in 1992 and implemented in 1998, the California Register of Historical Resources is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change."[2] A property may be eligible for inclusion in the California Register for the following reasons:

- Criterion 1: Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Criterion 2: Associated with the lives of persons important in our past;
- Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history.

These criteria are based upon National Register of Historic Places criteria; however, the California Register does not impose as specific requirements for integrity and age as the National Register. Resources eligible for listing in the California Register must retain enough of their historic character or appearance to be recognizable as historic resources and to convey the reasons for their significance. It is possible that resources which may not retain sufficient integrity for listing in the National Register may still be eligible for the California Register. Moved or reconstructed buildings, structures, or objects may also be considered for listing in the California Register under specific circumstances. In addition, properties that were constructed less than 50 years ago or which achieved significance less than 50 years ago may be eligible for inclusion in the California Register provided that sufficient time has passed to understand their historic context.

LOCAL

As a state agency, the University of California is presumably exempt from local regulation. For purposes of information only, brief descriptions of the two local designation programs in Los Angeles are provided.

Historic-Cultural Monuments

The Los Angeles Administrative Code, Section 22.130, defines a historical or cultural monument as "any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles, including historic structures or sites in which the broad cultural, economic or social history of the nation, State or community is reflected or exemplified; or which is identified with historic personages or with important events in the main currents of national, State or local history; or which embodies the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period, style or method of construction; or a notable work of a master builder, designer, or architect whose

[2] *Public Resources Code Section 5024.1(a)*

individual genius influenced his or her age." Designated Historic-Cultural Monuments, and properties that are officially under consideration for such status, are subject to certain provisions affecting issuance of building or other permits.

Historic Preservation Overlay Zones

Section 12.20.3 of the Los Angeles Administrative Code provides for the designation of an area having historic, architectural, cultural, or aesthetic significance as a Historic Preservation Overlay Zone (HPOZ). Contributing features to an HPOZ may be structures, landscaping, natural features or sites that meet one or more of the following criteria:

(a) [the feature] adds to the historic architectural qualities or historic associations for which a property is significant because it was present during the period of significance, and possesses historic integrity reflecting its character at that time; or

(b) owing to its unique location or singular physical characteristics, [the feature] represents an established feature of the neighborhood, community or city; or

(c) retaining the structure would help preserve and protect an historic place or area of historic interest in the City.

HISTORIC SURVEYS AND EVALUATIONS

CEQA also recognizes a property that has been surveyed or evaluated and meets the criteria for listing in the California Register as a historic resource, unless a preponderance of evidence demonstrates that it is not historically or culturally significant. Below are relevant surveys.

California Historical Resource Status Code

Properties listed or under review by the State of California Office of Historic Preservation are assigned a California Historical Resource Status Code (Status Code) of "1" to "7" to establish their historical significance in relation to the National Register of Historic Places (National Register or NR) or California Register of Historical Resources (California Register or CR). Properties with a Status Code of "1" or "2" are already listed in the National Register or California Register or formally determined eligible for listing in one or both registers. Properties assigned Status Codes of "3" or "4" appear to be eligible for listing in either register, but normally require more research to support this rating. Properties assigned a "5" Status Code have typically been determined locally significant or to have contextual importance. Properties with a "6" Status Code are not eligible for listing in either register. Finally, a "7" Status Code means that the resource has not been evaluated for the National Register or the California Register, or needs re-evaluation.

City of Los Angeles SurveyLA

SurveyLA is a multi-year program to survey, identify and record potential historic resources in Los Angeles' 466 square miles and 880,000 legal parcels. The program used the National Park Service's Multiple Property Documentation (MPD) approach to streamline the identification and evaluation of thematically-related historic properties. The approach includes two parts: preparation of a Citywide Historic Context Statement (HCS) and field surveys conducted by professional historic preservation consultant teams. The HCS is a narrative document that is intended to provide a framework for survey professionals to identify potential historic resources as well as a source of information for the general public. Historic context statements are not intended to be a chronological recitation of a community's significant historical events or noteworthy citizens or a comprehensive community history. Instead, the SurveyLA HCS identifies the themes representing various facets of Los Angeles history and relates those themes to representative property types. The HCS includes a broad range of

topics relating to the architectural, social, and cultural history of Los Angeles, and is designed to be expanded over time to incorporate new themes and property types.

While the survey is in progress, the city-wide HCS is a "work in progress," as results from the survey will inform the HCS. Its initial outline and summary has aided the field surveys in predicting the location, type, quantity, and quality of resources expected to be found in a specific theme and provides a framework to evaluate these resources. Field surveys started in 2010 and are on-going. They were divided into three phases according to Community Plan areas, i.e. the 35 areas into which the city has been divided for planning purposes. The field surveys evaluated properties using the criteria for the National Register, California Register, City of Los Angeles HCM, and City of Los Angeles HPOZ.

The survey covers the period from 1865 to 1980 and includes individual resources such as buildings, structures, objects, natural features, and cultural landscapes. In addition to individual resources, the survey includes areas and districts.

While SurveyLA provides baseline information on potential historic resources, survey findings are subject to change over time as properties age, more information is uncovered, and more detailed analyses are completed. Resources identified through SurveyLA are not designated resources; designation is a separate process that requires public hearings and property owner notification. The listing of a potential resource in the survey therefore does not confer local HCM status upon the property.

HISTORIC STATUS OF UNIVERSITY EXTENSION BUILDING

The University Extension Building is not currently listed in the National Register of Historic Places. It is also not listed in the California Register of Historical Resources, or as a California Historical Landmark or California Point of Historical Interest. The property is not a City of Los Angeles Historic-Cultural Monument, nor within a City of Los Angeles Historic Preservation Overlay Zone.

As of 2011, the subject property at 10995-10997 Le Conte Avenue is not listed in the California Historic Resources Information System (CHRIS) database with any status code. This means that the property had not been previously surveyed using California Historical Resource Status Codes, or that the surveys had not been submitted to the California Office of Historic Preservation.

Although owned by UCLA and not subject to City of Los Angeles' local laws, UNEX was surveyed by SurveyLA as part of the Westwood Community Plan Area. The Historic Resources Survey Report prepared by Historic Resources Group in March 2015 identified the building as individually eligible for listing in the California Register with the status code of 3CS, and eligible as a City of Los Angeles Historic Cultural Monument with 5S3 for the following reason:

> Excellent example of Late Modern commercial architecture in Westwood; work of master architect A. Quincy Jones. Less than 50 years old and not of exceptional importance; therefore not eligible for listing in the National Register.[3]

[3] Appendix A: Individual Resources, in Historic Resources Group, *SurveyLA Historic Resources Survey Report, Westwood Community Plan Area*, prepared for City of Los Angeles Department of City Planning Office of Historic Resources, March 2015, 28.

III. ARCHITECTURAL DESCRIPTION

The University Extension Building (UNEX) is a seven-story with partial ground level office building constructed in the Late Modern period of the 1960s and 1970s **(Figure 4)**. The site is sloped, rising towards the north and west, such that the building is tucked into the hillside with a partial basement as the ground level at the lower street grade along the south (Le Conte Avenue) and east (Gayley Avenue) sides; a secondary entrance is recessed at the east façade along Gayley Avenue **(Figure 1)**. The main entrance at the first floor is at the west side of the parcel and faces a twelve-space parking lot that is level with and accessed via a driveway from Levering Avenue. Next to the parking lot is a patio adjacent to which the site slopes to the south down to Le Conte Avenue; a wide staircase provides pedestrian access from the lower street grade at Le Conte Avenue to the main entrance. Mature trees and plantings are at the southwest corner of the site, adjacent to Levering Avenue and Le Conte Avenue.

Figure 4. West and south façade of UNEX with parking lot and landscaped slope at the corner of Levering Avenue and Le Conte Avenue. Source: Page & Turnbull, 2016.

Flat-roofed, the building is rectangular in plan with similar facades on each side. The west and east façades have five bays and the north and south façades have seven bays. The bays are divided vertically by raised concrete piers that rise uninterrupted from the ground level to a heavy parapet at the roof. A mechanical penthouse is set back on the roof and not visible from below. Above the first floor, each bay is nearly identical in appearance. Board-formed concrete bands mark each level, with ribbons of steel-framed casement and fixed windows recessed above each band. Sheltering the windows are flat canopies, intersected by equally spaced, vertical sunshades, both of perforated metal for acoustical baffling; transom windows are above the canopies. The banner-like sunshades are notched on the bottom to fit over the concrete bands **(Figure 5)**.

The four façades are different on the first and partial ground floor. Elevated above street level, the first floor contains the primary entry on the west façade. The deeply recessed entrance consists of double glass doors framed by pairs of floor-to-ceiling windows **(Figure 6)**. The first floor's south and east façades are floor-to-ceiling, bronze aluminum-framed window walls recessed below the

second floor and flanked by a concrete deck extending south from the entry to wrap around the south and east façades. Integrated into the concrete railing are concrete benches **(Figure 7 and Figure 8)**. Heavy concrete beams extend through the window wall and are visible above the deck. A staircase is located at the terminus of the deck in the middle of the east (Gayley Avenue) façade, adjacent to a loading dock **(Figure 9)**.

Figure 5. Banner-like sunshades notched around the concrete band at each floor. Source: Page & Turnbull, 2016.

Figure 6. Deeply recessed entrance at the west façade. Source: Page & Turnbull, 2013

Figure 7. Recessed concrete deck around the south and east façades at the ground floor. Source: Page & Turnbull, 2013.

Figure 8. Recessed deck, circa 1971. A. Quincy Jones papers (Collection Number 1692). Department of Special Collections, Charles E. Young Research Library, UCLA.

The partial ground level's south façade has an aluminum-framed window wall corresponding to a large, multi-purpose room with an adjoining patio that is protected by a board-formed concrete wall abutting the sidewalk along Le Conte Avenue. The ground floor's east façade is recessed below the first floor, and has a board-formed concrete wall as well as a secondary entrance. The recessed area has concrete planters while the southwest corner of the property at Le Conte and Gayley Avenues is enhanced by a small garden with an Asian-influenced design. Mature trees circle the parking lot and street trees punctuate the parkways.

The north façade's first floor is utilitarian, with non-original paneled walls at the loading docks. A service drive is along the north side, as is a large, concrete retaining wall at the northern parcel boundary **(Figure 10)**.

Figure 9. East façade, with secondary entrance recessed at the ground floor and stairs to the first-floor concrete deck. Source: Page & Turnbull, 2016.

Figure 10. North façade with adjacent service drive. Source: Page & Turnbull, 2016.

The interior floor plans are organized around a central, concrete, service core, with offices, conference rooms, and classrooms arranged around the perimeter of the building. Vertical circulation is provided by two elevators in the service core and by two staircases, one in the service core and the other on the west side of the building; the concrete core has some board-formed sections providing texture **(Figure 11)**. As the primary public space, containing the registration and cashier's offices, the first floor features wood paneling and glass enclosed offices **(Figure 12)**. With the exception of a wood-paneled conference room on the seventh floor, which opens onto an enclosed deck, the other interior spaces appear to be utilitarian in design and finishes.

Figure 11. Vertical circulation in the central service core. Source: Page & Turnbull, 2016.

Figure 12. First-floor interior, former registration counter. Source: Page & Turnbull, 2016.

The UNEX building has not been substantially altered since it was constructed. A handicap-access ramp has been added to the parking area. It also appears that modifications have been made to the loading dock enclosure. Interior alterations appear to largely consist of partitions in offices, some finishes, and the interiors of the elevator cabs.

IV. HISTORIC CONTEXT

UNIVERSITY OF CALIFORNIA, LOS ANGELES

The University of California was established in 1868, with the Berkeley campus opening in 1873. In 1881, the Los Angeles State Normal School was founded for the purpose of teacher training. Originally located on five acres in downtown Los Angeles, the Normal School became the University of California Southern Branch in 1919, culminating an effort by Regent Edward Dickson to bring a campus of the state university to Los Angeles. Between 1914 and 1919, the Normal School had occupied a 25-acre property on North Vermont Avenue, which was then transferred to the Southern Branch by act of the state legislature. With an enrollment of 250 students, the Southern Branch initially offered a two-year program in the College of Arts and Sciences. Two-year programs became four-year programs in 1924, and by 1925, it was apparent that the institution would soon outgrow its home.

An official search for a new site was launched by the Regents of the University in 1925, who explored possibilities from Ventura to San Diego Counties, eventually narrowing the search to seventeen locations. Five finalists were selected: Burbank, Fullerton, Pasadena, Palos Verdes, and the former Wolfskill Ranch, west of the young city of Beverly Hills and adjacent to the newly developing affluent communities of Bel-Air, Brentwood, and Holmby Hills. Eventually the "Beverly" site was chosen and purchased at a highly advantageous price. Property owners Edwin and Harold Janss, developers of Holmby Hills and "Westwood Hills," a middle-class subdivision south of the proposed University location, contributed 220 acres. Alphonzo Bell, developer of Bel-Air and several portions of Brentwood and Pacific Palisades further to the west, contributed 383 acres of rolling terrain just south of the Santa Monica Mountains. The purchase was monetarily supported by contributions from the cities of Los Angeles, Santa Monica, Beverly Hills, and Venice. Funds for construction, in the form of a six million dollar bond issue, half of which was allocated to the new campus, were approved by the voters of the State of California in 1926.

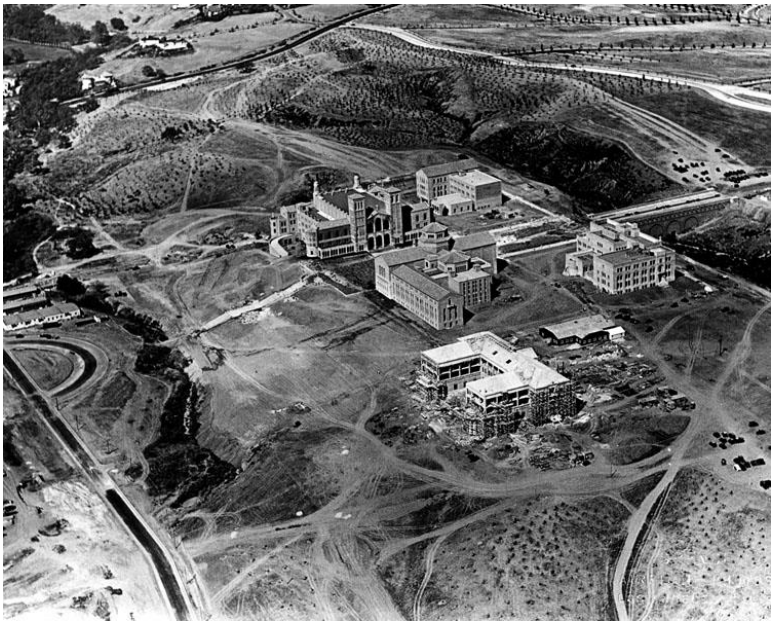

Figure 13. Early buildings constructed at UCLA around a central quadrangle, 1929.
Source: Security Pacific National Bank Collection, Los Angeles Public Library, LAPL00042345.

Ground was broken in 1927, the same year the name of the school was officially changed to the University of California at Los Angeles (UCLA). The campus was laid out under the direction of

architect George W. Kelham. The supervising architect of the Berkeley campus at the time, Kelham was a prominent San Francisco practitioner who had been educated at the Ecole des Beaux Arts. His master plan, created with the assistance of Berkeley landscape architect John W. Greg, reflected traditional principles. The first four buildings to be erected—Royce Hall, College (Powell) Library, and two science buildings—flanked a central quadrangle and stylistically reflected the Romanesque and Renaissance architecture of northern Italy **(Figure 13)**. Designed by Kelham and prominent Los Angeles architects Allison and Allison, the buildings were inspired by precedents in Verona, Milan, and Bologna and displayed a common palette of red brick exteriors, terracotta trim, and red tile roofs. Additional buildings constructed during the 1930s, including the Education Building and Men's and Women's Gymnasiums, continued the theme. The designs of two other buildings from the decade went in slightly different directions: Kerckhoff Hall incorporated a Gothic Revival motif while the Mira Hershey residence hall was more Mediterranean Revival in appearance.

Following World War II, enrollment at UCLA surged, as veterans took advantage of the G.I. Bill and the population of southern California exploded. As UCLA gained in academic stature, a number of new schools, colleges, institutes, and research centers were added. At first, under the leadership of architect David Allison, who had taken over from Kelham upon the latter's death in 1935, the new buildings that accommodated this growth and diversification were still low-rise and red brick, although more modern in style. Under the direction of the architectural firm of Wurdeman and Beckett, who assumed the role of supervising architects in 1948, and the subsequent firm of Welton Beckett and Associates, a more deliberately modern idiom was employed. The first modern buildings to be constructed on campus included the original Dickson Art Building (now Perloff Hall) (Paul Robinson Hunter, architect, 1952) and Schoenberg Hall (Welton Beckett and Associates, 1955), which showcased a New Formalist aesthetic. In 1959, the UCLA Faculty Center, designed by Austin, Field, and Fry, reflected the popularity of the California Ranch style. Also in 1959, the first of four new, multi-story residence halls, Dykstra Hall, was built on the hill west of the center of the campus. Sproul Hall (1960), Rieber Hall (1963), and Hedrick Hall (1964) followed.[4] These dormitories were unapologetically modern, with a modular, repetitive design executed in concrete. Architect Maynard Lyndon designed the first modern high-rise academic building on campus, Bunche Hall, in 1964.

By 1965, UCLA had a student enrollment over 26,000, served by thousands of faculty members and administrative staff, and was one of the fastest growing universities in the country. Supplementing the undergraduate and graduate curricula, an extensive program of continuing education for the community at large was also evolving. The origins of the University of California extension program lay in the late 19th century academic outreach to agricultural centers.[5] University Extension was officially established at the Berkeley campus in 1892, and first brought to Los Angeles in 1917 as a first step in establishing a southern branch for the University of California.[6] The demand for "lifelong learning" accelerated during the second half of the 20th century, when professionals in numerous disciplines, including education, medicine, and law, among others, were increasingly required to keep current with the latest developments in their respective fields. At the same time, those who deferred college, or who were later in life seeking higher education, had the Extension programs as an option.[7] By 1971, UCLA Extension had more than 85,000 people participating each year in its programs.[8] Today, UCLA Extension is one of the nation's largest and most comprehensive continuing education programs with programs tailored to working adults and lifelong learners.[9] It currently has five

[4] "UCLA History- Nov. 19, 1959 Life on The Hill Begins," UCLA Alumni. http://alumni.ucla.edu/share/ucla-history/tmih-nov-dykstra.aspx.
[5] University of California Digital Archives. http://sunsite.berkeley.edu/uchistory.
[6] Marina Dundjerski, *UCLA: The First Century*, (Los Angeles-London: UCLA History Project/UCLA Alumni Association and Third Millennium Publishing Limited, 2011), 15-16.
[7] Leonard Freedman, Dean UCLA Extension, "The Extended University," *UCLA Extension Catalog,* August 11, 1971, 2.
[8] Freedman, 2.
[9] "UCLA Extension," UCLA Continuing Education, accessed November 8, 2016, http://www.ucla.edu/academics/continuing-education.

locations in Westwood, including on the UCLA campus as well as the UNEX building, and a location in downtown Los Angeles; a Woodland Hills location in the San Fernando Valley is expected to open in Spring 2017.[10]

HISTORY OF THE PROPERTY

The University Extension Building (UNEX) was originally planned to be the headquarters for all the University of California extension programs. The site chosen for the new building was a hilly, unimproved parcel located in Westwood Village at the edge of the UCLA campus, ideal to serve both town and gown **(Figure 14)** The site, along with another property on Levering Avenue, was intended to connect the main campus to the West Medical Campus under development at Veteran Avenue.[11] The architectural firm of Jones and Emmons was engaged circa 1965 to prepare the plans for what was then known as the University Extension Office Building; it is not known when Cornell, Bridgers & Troller became the project's landscape architect. Previously, the UCLA Extension program had been housed in remaining World War II buildings around campus and in the community. The new building was financed in part by federal grants and Extension fees with no state funds.[12]

Figure 14. Site prior to construction of UNEX. Source: A. Quincy Jones papers (Collection Number 1692). Department of Special Collections, Charles E. Young Research Library, UCLA.

Design was well underway when the budget and program were scaled back and it was decided that the building would serve UCLA extension exclusively, with the name being changed to the UCLA Extension Office Building.[13] According to early renderings, it appears the building was originally intended to have a taller seventh floor and a smaller and less dominate parapet **(Figure 15)**. Completed and opened in 1971, UNEX brought the administrative functions of UCLA Extension into one building **(Figure 16)**. However, Extension classes were still held on the main campus, in the Extension's downtown Los Angeles center, and throughout Los Angeles County, from Pasadena to Rosemead, Torrance, and Woodland Hills.[14] In addition to Extension administration and registration, UNEX housed other tenants, including the Regional Medical Programs and the UCLA Alumni and

[10] "UCLA Extension Locations," UCLA Extension, accessed November 8, 2016, https://www.uclaextension.edu/pages/locations/.
[11] Campus Planning Committee and Office of Architects and Engineers, *Long Range Development Plan*, *University of California, Los Angeles*, December 1963, 14.
[12] "UCLA Extension Now in New Quarters," *UCLA Weekly,* Vol. 2, No. 1, October 4, 1971, 1.
[13] Online Archive of California. Finding Aid for the A. Quincy Jones papers, 1942-1979, accessed August 30, 2016. http://www.oac.cdlib.org/findaid/ark:/13030/tf0j49n6wn/.
[14] "Maps of Extension Locations," *UCLA Extension Catalog,* August 11, 1971, 144-145.

Development Center. It was one of three high-rise buildings recognized with a beautification award by the Westwood Chamber of Commerce in 1972.[15]

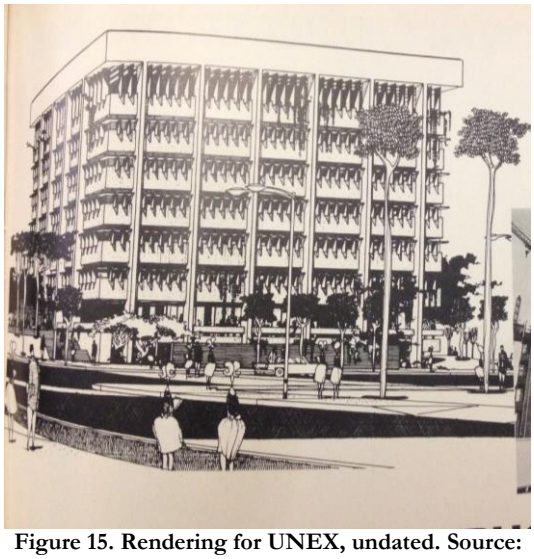

Figure 15. Rendering for UNEX, undated. Source: *Orange County Business.*

Figure 16: UCLA UNEX Building in 1972. Photo by Wayne Thom. Source: www.waynethom.com.

Research in the *Los Angeles Times* online archives, the Avery Index to Architectural Periodicals, and the two monographs documenting the career of architect A. Quincy Jones resulted in only a few mentions of the UNEX building, including an entry in the Jones and Emmons project list: "Extension Office Building, Los Angeles, 1965-1971."[16] Job-related correspondence in the A. Quincy Jones papers housed in the Charles E. Young Research Library Special Collections extends from 1965 to 1979. The construction and opening of the building thus went relatively unnoticed, except by those immediately affected.

JONES AND EMMONS

Archie Quincy Jones (1913-1979) was born in 1913 in Kansas City, Missouri and came to California as a child in 1919. He received his degree in architecture from the University of Washington in 1936 and returned to Los Angeles to begin his architectural career. He worked for a number of architects, including the preeminent Paul R. Williams, who hired Jones in 1939. After receiving his architectural license in 1942, Jones enlisted in the Navy. His service ended in 1945 and he began solo career as an architect, where he often worked on specific projects in collaboration with others like Williams.

One of Jones' most celebrated achievements during the late 1940s was the Mutual Housing Association development in the hills of Brentwood (1946-1950). Jones, along with architect Whit Smith and engineer Edgardo Contini, was engaged by a cooperative begun by four musicians to design a communal housing estate on 800 acres off Kenter Avenue. In 1948, the team presented the Association with a booklet, *Mutual Plans*, containing 28 house designs, from which the Association chose eight to be constructed. One hundred and sixty homes were eventually built, utilizing materials such as concrete block and wood, expansive glass walls, and low-pitched roofs that seemed to float above the supporting walls. Communal facilities included a nursery school, credit union, and park; plans for other amenities and services were not realized.

[15] "Beautification Awards Given in Westwood," *Los Angeles Times*, May 21, 1972.
[16] Hodge, Brooke, Editor. *A Quincy Jones: Building for Better Living*. Hammer Museum, University of California, Los Angeles. Munich, Berlin, London, New York: DelMonico Books-Prestel: 2013.

In 1950-1951, Jones formed a partnership with Frederick Earl Emmons (1907-1999). Born in Olean, New York in 1907, Emmons graduated from the Cornell College of Architecture, Art, and Planning in 1929. He worked for the nationally prominent architectural firm of McKim, Mead and White for two years, and moved to Los Angeles in 1932. He met Jones in 1940 when both worked at Allied Engineers. Like Jones, Emmons served in the Navy and then returned to Los Angeles to set up a solo practice. The Jones and Emmons partnership lasted until 1969-1970, when Emmons retired; their two decades together produced thousands of homes, churches, factories, office, university, and other buildings, many of which were widely lauded in the architectural community.

Perhaps the most widely appreciated Jones and Emmons buildings are their single-family homes, over 5,000 of which were built by developer Joseph Eichler between 1951 and 1964 in northern and southern California **(Figure 17)**. These post-and-beam homes were largely of wood, a material for which the architects had a special affinity, and often featured soaring spaces as result of angled rooflines. In the words of one observer, these homes "with high ceilings, walls of glass, functional atriums and exposed natural materials, embody a modernist aesthetic that has come to epitomize midcentury American architecture."[17] In addition to tract houses, the team also designed custom homes, some of which were quite lavish while still adhering to the architects' aesthetic and approach of designing from the inside out. One of the most well-known is Sunnylands (1963-1966), the Walter Annenberg estate in Rancho Mirage **(Figure 18)**.

Figure 17. Typical house in Balboa Highlands Eichler tract development (1962-1964) by Jones & Emmons, Los Angeles. Source: City of Los Angeles Office of Historic Resources.

Figure 18: Sunnylands, the Walter Annenberg estate (1963-1966) in Rancho Mirage by A. Quincy Jones. Source: Sunnylands.org.

In addition to their prolific residential designs, Jones and Emmons were behind numerous institutional and education buildings throughout California. Starting in the early 1950s, Jones and Emmons began designing several primary and secondary schools in Los Angeles, including Campbell Hall School (1951) and Clover Avenue Elementary (1952). These schools were composed in the California Modern style typical of the period and arranged as a series of rectilinear buildings in finger plans or courtyards connected by flat-roofed walkways. Beginning in the late 1950s with the Biological Sciences Building for the University of California, Santa Barbara (1956-1959), Jones and Emmons started to design university buildings and other improvements specific to post-secondary education settings **(Figure 19)**. These included classroom buildings, libraries, housing, and a bookstore, as well as master planning concepts. Among those is the University Research Library (now Charles E. Young Research Library) at UCLA, built in two stages in 1960-1964 and 1964-1971 that was one of their more published university endeavors **(Figure 20)**. Concurrently, Jones and Emmons won a competition to design the Carillon Tower at the University of California, Riverside (1964-1966), a building which has become a symbol for that campus. In 1964, Jones was hired to develop a campus master plan for the newly founded California State University, Dominguez Hills, which he continued to work on until his death in 1979. The firm's university work spanned from

[17] Thornburg, Barbara. "Home: The Man Behind the Look." *Los Angeles Times*, February 14, 2009.

lower-scale buildings in Midcentury Modern styles, similar to Jones and Emmons' domestic and commercial projects of the 1950s, to larger, multi-story and multi-level buildings where the firm experimented with structural and building systems and more complex spatial designs.

Figure 19. Biological Sciences Building at UC Santa Barbara (1956-1959) by Jones & Emmons. Photo by Wayne Thom. Source: www.waynethom.com.

Figure 20. Charles E. Young Research Library at UCLA (1960-1971). Source: Page & Turnbull, 2013.

In the 1970s, Jones maintained his architectural practice as A. Quincy Jones and Associates following Emmons' retirement and continued to work on large university commissions. Embracing the move away from the International Style, the firm's work became more robust, expressionist, and complex. One of the most lauded is the University of Southern California Annenberg School for Communication and Journalism (1970-1976) **(Figure 21)**. The firm was responsible for the design of several individual buildings at CSU Dominguez Hills, including the Social & Behavioral Sciences Building (1971), the Classroom and Administration Building (1971), and the Leo F. Cain Library (1972) **(Figure 22)**.[18] See the appendix for a select list of their university and related projects.

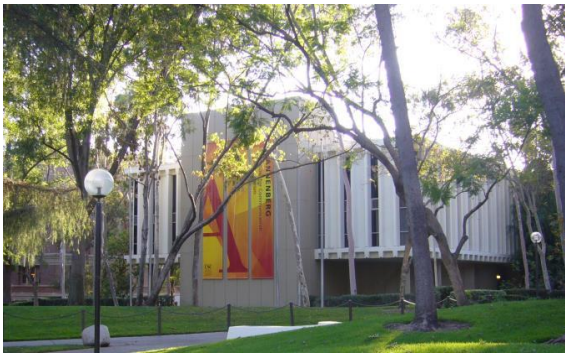

Figure 21: Annenberg School for Communication and Journalism (1970-1976), USC. Source: Page & Turnbull, 2010.

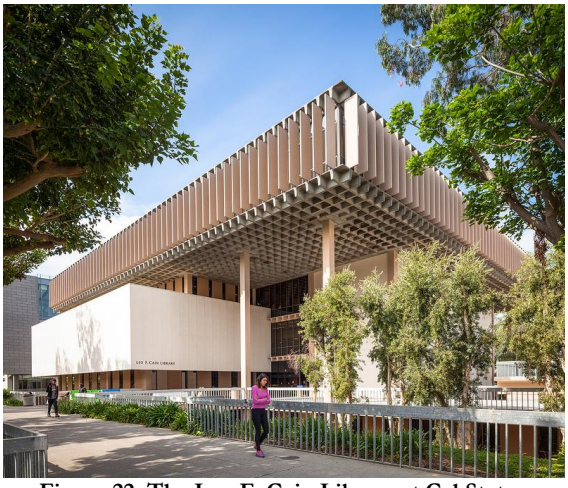

Figure 22: The Leo F. Cain Library at Cal State Dominguez Hills (1972). Photo by Darren Bradley, 2015. Source: ModernistArchitecture.blogspot.com.

[18] "A. Quincy Jones Designs a College Campus," Modernist Architecture, modified April 12, 2015, accessed August 7, 2016. http://modernistarchitecture.blogspot.com/2015/04/a-quincy-jones-designs-college-campus.html.

In addition to educational architecture, Jones and Emmons became known for their commercial buildings, both as a firm and as individual practicing architects. The firm's repertoire of office buildings ranges from the relatively modest in scale (the Jones and Emmons office on Santa Monica Boulevard in West Los Angeles, 1954-1955 and 1957-59) to the more grandiose (Warner Brothers Records, Burbank, designed by Jones in 1971-1975 following Emmon's retirement). Despite their varying size and budget, both buildings feature offices organized around landscaped patios and atriums, high-ceilinged spaces, expansive walls of glass, and wood detailing.

Both Jones and Emmons continued to be active until their deaths. Jones' architectural practice continued as A. Quincy Jones and Associates. Capping several years as a fifth year architecture professor and critic and the University of Southern California, Jones was appointed Dean of the School of Architecture in 1975, a position he held until 1978. The recipient of numerous architectural awards, Jones was a Fellow of the American Institute of Architects. Emmons moved to Belvedere in northern California, where he served as chairman of the planning commission and was the author of a book on naval architecture.

CORNELL, BRIDGERS & TROLLER

The landscape architecture firm Cornell, Bridgers &Troller created the landscape design for UNEX. The firm was founded in 1955 by Ralph Cornell (1890-1972), one of California's leading landscape architects, who had worked in solo practice between 1933 and 1955. Junior partners S. William Bridgers and Howard E. Troller joined Cornell in 1955. As Cornell, Bridgers & Troller, the firm was responsible for the landscape design of several prominent sites in Los Angeles, including several in downtown such as Parker Center, the Department of Water and Power Building, the Music Center, and the Civic Center Mall and completed hundreds of projects for city parks (Beverly Gardens, on the north side of Santa Monica Boulevard, Beverly Hills) and colleges (Pomona College). Cornell and the firm had a long working relationship with Welton Becket and Associates. Cornell oversaw development of other universities and colleges, but was responsible for the UCLA campus landscape from 1937 until his death in 1972. Among the firm's finest work is UCLA's Franklin D. Murphy Sculpture Garden. Following the death of Ralph Cornell, the firm continued as Bridgers, Troller, and Hazlett Landscape Architects.

The scope of the contribution from Cornell, Bridgers & Troller to UNEX's site planning or landscape features is not detailed in the original set of plans. The successor firm, Bridgers, Troller and Hazlett, produced erosion control plans for the landscaped slope at the west end of the site in 1974.

WELTON BECKET AND ASSOCIATES

Welton Becket, F.A.I.A. is listed as the consulting architect on the UNEX plans. Welton Becket (1902-1969) served as supervising and later consulting architect to UCLA, originally with his partner William Wurdeman (1903-1949). That consulting contract lasted from 1948 until 1960. Wurdeman & Becket (until 1949) and later Welton Becket and Associates designed at least 21 buildings during their two decade tenure. The first of that group was the Service Building (no longer extant) which was completed in 1948. More than 1.5 million square feet of space in at least ten medical buildings were completed by Welton Becket and Associates between 1954 and 1967.

Welton Becket and Associates often had a role in the building of UCLA campus buildings, but their contribution to UNEX as the Consulting Architect on the project is unknown.

LATE MODERNISM

Late Modernism is a broad term that encompasses the varied designs of the 1960s and 1970s, when backlash against the perceived uniformity and repetitiveness of International Style architecture inspired many architects to explore other architectural forms.[19] Some drew inspiration from historic architectural examples, giving way to New Formalism and eventually Postmodernism. Others pushed the modern aesthetic to new extremes through advancements in technology, engineering, and materials, leading to Brutalism, Expressionism, and Hi-Tech Structuralism. Still others transformed the glass-and-steel look into taut glass skin and mirror glass designs, or alternatively, incorporated organic materials and shapes for a more natural, wooded aesthetic. Late Modernism essentially hybridized established Modern rationale and functional forms with aspects of the emerging architectural stylistic trends that would gain prominence from the 1960s through the 1980s.

Because of this interplay of varied forms within a clearly Modern vocabulary, Late Modernism is difficult to define. This is exacerbated by the number of subgenres like traditional Modernism, New Formalism, Brutalism, and Expressionism that have their own defining characteristics; some Late Modern examples feature elements of these styles in various combinations. Typically, Late Modern commercial, institutional, and government buildings were often monumental in scale, have sculptural qualities within the design, including strong linear elements, pronounced structural components, and interplay of plans or volumes, and comprehensive landscape design in plantings, paving, and features to create a cohesive setting.

Some common elements often incorporated into Late Modern buildings include:

- Strong geometric forms
- Glazed and solid components
- Linear accents
- Symmetrical and/or modular composition
- Integrated structural elements
- Industrial materials
- Aluminum floor-to-ceiling glazing systems at the ground floor
- High quality materials at the ground floor
- Colored glazing treatments
- Flexible interior spaces
- Climate controlled environments

Practitioners of the Late Modern style included celebrated architects of the Modern Movement at the next phase of their careers experimenting with new forms, such as Marcel Breuer, Louis Khan, and William Pereira, as well as those that were trained modernists but eventually rejected orthodox Modernism, such as Philip Johnson and Cesar Pelli.

Among the non-residential Late Modern designs identified by SurveyLA are First Church of Christ, Scientist, Sawtelle (1970) in Brentwood by Maynard Lyndon **(Figure 23)**; Home Savings of America (1972) by Frank Homolka & Associates **(Figure 24)** and the Gayley Center (1979) by Krisel-Shaprio & Associates in Westwood **(Figure 25)**; the Annenberg School of Communications (1979) by A. Quincy Jones at the University of Southern California **(Figure 21)**; and the Liberty Saving Building (1966) by Kurt Meyer & Associates in West Los Angeles as an example of Brutalism **(Figure 26)**.

[19] Kazys Varnelis, "Embracing Late Modern," *L.A. Forum*, accessed March 2, 2016, http://laforum.org/article/embracing-late-modern/.

Figure 23: First Church of Christ, Scientist, Sawtelle (1970) in Brentwood by Maynard Lyndon. Source: SurveyLA.

Figure 24: Home Savings of America (1460 S. Westwood Blvd., 1972) in Westwood by Frank Homolka & Associates. Source: SurveyLA

Figure 25: Gayley Center (1101 S. Gayley Ave., 1979) in Westwood by Krisel-Shapiro & Associates. Source: SurveyLA.

Figure 26: Liberty Savings Building (1966) in West Los Angeles by Kurt Meyer & Associates. Source: SurveyLA.

V. EVALUATION

The following section examines the eligibility of the University Extension Building for individual listing in the National Register and California Register:

NATIONAL REGISTER AND CALIFORNIA REGISTER ELIGIBILITY

Criterion A/1 (Event)

UNEX does not appear to be associated with events or activities that have made a significant contribution to the broad patterns of history. The University Extension program began at the Berkeley campus in 1892. It was already well-established at UCLA by the time the UNEX building was constructed. While it brought the administrative functions of the UCLA Extension program into one location, the building was not primarily where Extension classes were held in Los Angeles or even in Westwood.

When it was built, UNEX was at the outskirts of the main campus, separated by Gayley Avenue and isolated by parking lots, service buildings, and open space. It does not contribute to campus as a cultural landscape, and does not relate, in program or in appearance, to any of the campus buildings. Developing the property helped to connect the main campus to the West Medical Campus under development at the time, but was not related to other development in Westwood. The subject property is not significant under National Register/California Register Criterion A/1.

Criterion B/2 (Person)

No associations with the lives of persons important in history were discovered. The facility is used by the campus population, community at large, and visiting faculty, generally on a relatively short-term basis. No significant achievements or contributions of building users for which the UNEX building would be the best representation are known. The subject property is not significant under Criterion B/2.

Criterion C/3 (Architecture)

Although UNEX was designed by Jones and Emmons, a firm of recognized greatness for their Midcentury Modern architecture, it is not a significant building when considered within the totality of their output. The building design started in 1965 and was completed in 1971, after Emmons retired from the partnership. It is one of several university-related buildings by the firm and its successor, A. Quincy Jones and Associates. It shares common features with the firms' larger-scale institutional works, such as an expressed structural system and a transparent ground and first floor, but it lacks the design clarity or coherence of the either firm's better university works, like the Biological Sciences Building at UC Santa Barbara **(Figure 19)**, or the Annenberg School for Communication and Journalism at USC **(Figure 21)**. It is a straightforward institutional office building that reflects the stylistic trend towards concrete construction typical of this period, but the component pieces fail to create a compelling design. The sunshades at UNEX, appear thin and insubstantial compared to the large concrete bands and lack the weight to contrast with the bands' massing; sunshades are better integrated as full elements at the top of Jones' Cal State Dominguez Hills library **(Figure 22)**. At the same time, the sunshades' canopies interrupt the vertical piers in a way where the piers' sense of depth and crisp shadow lines are lost. Last-minute design changes altered the building's top floor and parapet proportions, so that it is out of scale and further unbalances the overall composition.

The same flaws undermine UNEX as an example of Late Modern design. It has some notable features such as the open walkway along the south and east first floor and the landscaping elements near the entrances, but its component features that are found in Late Modern designs do not add up to a distinguished example that best represent the period.

The building was not recognized at the time of its construction in the architectural press, nor has it been subsequently documented in architectural guides or historic surveys. It was not included in the 2013 exhibition devoted to the work of A. Quincy Jones mounted by the University of California Hammer Museum. Better examples of Jones and Emmons university buildings exist, such as the Biological Sciences Building at UC Santa Barbara, the Charles E. Young Research Library at UCLA, the Carillon Tower at UC Riverside, the Annenberg School for Communication and Journalism at USC, and the Leo F. Cain Library at Cal State Dominguez Hill; the latter two showcase Jones' experimentation with volumes and more complex compositions that characterized his later work.

Better examples of Late Modern also exist in Westwood and in Los Angeles, including the Home Savings of America by Frank Homolka & Associates and Gayley Center by Krisel-Shapiro Associates, as well as A. Quincy Jones' Annenberg School for Communication and Journalism at USC. As such, it is the professional opinion of Page & Turnbull that the subject property does not meet Criterion C/3 as embodying the distinguished characteristics of Late Modern architecture, nor as an important work of Jones and Emmons or A. Quincy Jones.

Criterion D/4 (Information Potential)

Criterion D/4 is typically reserved for the assessment of archeological resources. In rare instances, buildings themselves can serve as sources of important information about historic construction materials or technologies and can be significant under Criterion D/4. However, the UNEX building does not appear to be a principal source of important information in this regard.

Criteria Consideration G

The National Register typically excludes properties that achieved significance within the last fifty years unless they are of exceptional significance. The phrase "exceptional significance" may be applied to the extraordinary importance of an event or to an entire category of resources so fragile that survivors of any age are unusual. The resource does not need to be of national significance but it can only be evaluated when sufficient historical perspective exists to determine that the property is exceptionally important. The necessary perspective is often provided by scholarly research and evaluation, and must consider both the historic context and the specific property's role in that context.

The research conducted does not indicate that UNEX is of exceptional importance to have achieved significance within the last fifty years. As such, it does not meet Criteria Consideration G for listing in the National Register.

INTEGRITY

In order to qualify for listing in any national, state, or local register, a property must possess significance under one of the aforementioned criteria and have historic integrity. The same seven variables or aspects that define integrity—location, design, setting, materials, workmanship, feeling and association—are used to evaluate a resource's eligibility for listing in the California Register and the National Register. According to the *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*, these seven characteristics are defined as follows:

> Location is the place where the historic property was constructed.
>
> Design is the combination of elements that create the form, plans, space, structure and style of the property.

Setting addresses the physical environment of the historic property inclusive of the landscape and spatial relationships of the building/s.

Materials refer to the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form the historic property.

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history.

Feeling is the property's expression of the aesthetic or historic sense of a particular period of time.

Association is the direct link between an important historic event or person and a historic property.

The property retains substantial integrity of location, setting, design, materials, workmanship, feeling, and association. Alterations to the exterior are minimal and interior alterations are mostly limited to finishes or spaces that would not be considered to be primary. However, the building does not meet any of the criteria of significance.

VI. CONCLUSION

The University Extension (UNEX) Building was designed and completed in 1965-1971 adjacent to the southwest corner of the UCLA campus. The facility was designed by the well regarded Southern California architectural firm of Jones and Emmons.

UNEX does not appear to qualify for listing in the National Register of Historic Places or California Register of Historical Resources. Although it possesses integrity and was designed by Jones and Emmons, who are widely acknowledged as local masters of post-war Modernism, UNEX is not a distinguished example of their work. It lacks the aesthetic balance and design clarity that characterized the firm and the architects' best works. Similarly, the building possesses characteristics typical of the Late Modern period with its symmetrical arrangement, glazed and solid components, and expressed structural elements, but the building as a whole is not a compelling design that rises to the level of eligibility for the California Register based on its architecture. Despite the SurveyLA findings, it is Page & Turnbull's professional opinion that UNEX is not eligible for listing in the California Register as a work of Jones & Emmons or an example of Late Modern architecture.

The building is not yet 50 years old, and we concur that it is not of exceptional significance to meet Criterion Consideration G for the National Register. As such, Page & Turnbull finds the University Extension Building is not a historic resource under the California Environmental Quality Act (CEQA).

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VIII. APPENDIX

LIST OF RELATED PROJECTS

The following is a selected list of educational and office projects by Jones and Emmons and A. Quincy Jones and Associates culled from the *A. Quincy Jones: Building for Better Living* catalog.[20]

Jones and Emmons

Education Projects:
Campbell Hall School, Master Plan and School Buildings, Los Angeles, 1951-1964
Los Angeles Unified School District
- Clover Avenue Elementary School, 1952-1954
- 232nd Place School, 1956-1958
- Bancroft Junior High School, 1960-1963
- Sierra Park Elementary School, 1964-1966; 1966-1968

University of California, Santa Barbara, Biological Sciences Building, 1956-1959
University of Southern California Faculty Center, Los Angeles, 1959-1960
University of California, Santa Barbara, Married Student Apartments, Santa Barbara, 1960-1963
University of California, Los Angeles, University Research Library, 1960-1964; 1964-1971
University of California, Santa Barbara, Speech and Drama Building, 1961-1964
Graduate Research Library, University of Hawaii, Manoa Campus, Honolulu, 1963-1968
University of California, Riverside, Carillon Tower, 1964-1966
University of California, Riverside, Chemistry Building, 1964-1967
University of California, Los Angeles, Extension Office Building, 1965-1971
University of California, Irvine, 1958-1970 [with William Pereira]
Claremont Colleges, The Earl W. Huntley Bookstore, Claremont, 1968-1969
California Institute of Technology, Earle M. Jorgensen Laboratory for Information Sciences, Pasadena, 1968-1971
Fuller Theological Seminary, Master Plan, Pasadena, 1968

Office Buildings:
Klein-Norton Building, Culver City, 1954
Jones and Emmons Office Building, Los Angeles, 1954-1955; 1957-1959
Writers' Guild of America Office Building and Shops, Los Angeles, 1957-1959
United States Consulate General Office Building, Singapore, 1957-1961
Infrared Industries, Inc. Offices, Laboratories and Factory, Carpentaria, 1960-1961
IBM Aerospace Headquarters, Westchester, Los Angeles, 1964 (with Eliot Noyes)

Multi-level Buildings (not comprehensive)
Laguna Eichler Apartments, San Francisco, 1960-1964
Shorecliff Tower Apartments, Santa Monica, 1963

[20] Jones had other remodeling projects, including the Westwood (now Geffen) Playhouse, which was an adaptive reuse of the former UCLA Masonic clubhouse. It is also located across the street from campus, at 10886 Le Conte Avenue. Jones' work on this building is only visible on the interior.

A Quincy Jones and Associates

Education Projects:
University of California, San Diego, Mandeville Center for the Arts, La Jolla, 1968-1975
University of Southern California Annenberg School for Communication and Journalism, 1970-1976
California State University, Dominguez Hills

Master plan and consultation, 1964-1979
Social & Behavior Sciences Building, 1971
Classroom and Administration Building, 1971
Leo F. Cain Library, 1972

Office Buildings:
Warner Bros. Records, Inc., Burbank, 1971-1972
City of Tustin Civic Center Master Plan, City Hall, Civic Center Community Building, Tustin, 1972-1975
San Fernando Courthouse, North Valley Superior Courts Building, San Fernando, 1975-1983

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RE: Project Impact Analysis for Warren Hall as part of UCLA's Long Range Development Plan Amendment EIR -- UPDATED

Dear Kathy,

Page & Turnbull conducted this Project Impact Analysis for Warren Hall to inform the environmental impact report (EIR) that Psomas is preparing for UCLA's Long Range Development Plan (LRDP) Amendment. Located at 900 Weyburn Place, Los Angeles, within UCLA's Southwest zone in Westwood, Warren Hall was determined previously by Page & Turnbull to be an eligible historic resource for the purposes of the California Environmental Quality Act (CEQA). Under the LRDP Amendment, Warren Hall is proposed for redevelopment as one of five sites identified for new housing. The purpose of this report is to supplement the "Warren Hall Historic Resource Evaluation," prepared by Page & Turnbull in January 2017 for UCLA and analyze the potential impacts to Warren Hall as an eligible historic resource. If significant, unavoidable impacts are anticipated, then potential mitigation measures will be outlined. In addition, indirect impacts to known and potential historic resources from the proposed project and cumulative impacts will also be discussed.

UCLA provided Page & Turnbull with the May 2017 Notice of Preparation for the Long Range Development Plan Amendment (2017) and Student Housing Projects, as well as written descriptions for the proposed housing planned as part of the project. Conceptual plans and renderings for the new housing proposed for the Warren Hall site dated April 28, 2017, for the Bradley site dated May 9, 2017, and for the UNEX site dated June 27, 2017 were also provided, as were views dated June 21, 2017 of the Drake Stadium project from two vantage points.

SUMMARY OF SIGNIFICANCE

Constructed in 1961, Warren Hall was originally the home of the Laboratory for Nuclear Medicine and Radiation Biology **(Figure 1)**. The laboratory was the continuation of the UCLA Atomic Energy

Project, a post-World War II program funded by the federal Atomic Energy Commission (AEC) to study the biological and medical effects of radiation on living things. The Atomic Energy Project at UCLA was one of two such programs funded by the AEC and solely dedicated to biochemical research at the dawn of the Atomic Age. Warren Hall was specifically built to continue the AEC-funded research, and the Laboratory for Nuclear Medicine and Radiation Biology made significant contributions to the development of both nuclear medicine (use of radioactive materials in medicine) and radiation biology (effects of radiation on living matter). Although the Atomic Energy Project's earliest studies predate Warren Hall, the building is the best representation of UCLA's involvement with the AEC's biomedical research and its contribution to the development of the nuclear medicine field. As such, it meets the criteria for listing in the National Register of Historic Places (National Register) and the California Register of Historical Resources (California Register) under Criterion A/1. The period of significance for this criterion is 1961-1981, from the year of construction until the Laboratory of Nuclear Medicine and Radiation Biology became a different program.

Figure 1: Warren Hall's north (left) and west façades, which are glazed window walls protected by concrete screens, looking southeast. Source: Page & Turnbull, 2016.

As an example of Midcentury Modern design, Warren Hall also meets the National Register and California Register Criterion C/3. Designed by the Pasadena-based architecture firm of Neptune & Thomas, the building embodies the distinctive characteristics of the period with its prominent perforated concrete screens, structural clarity, modular construction, and use of concrete, glazing, and other modern materials. It was purpose-built as a laboratory and office building for the study of

nuclear medicine and radiation biology, and retains the original radiation facilities with thick concrete walls and a greenhouse for studying plant life. The period of significance for this criterion is 1961, the year construction was completed.
Warren Hall was named after Dr. Stafford L. Warren, who was the Chief Medical Officer at the Manhattan Project's Medical Division during the development of the atomic bomb in World War II. He was also the first dean of the UCLA Medical School. However, Warren Hall is not significant to Dr. Warren's career associated with these two positions, nor with his role as a pioneer in the nuclear medicine field. As such, it does not meet Criterion B/2 for association with a significant individual.

The building retains all aspects of integrity except for its setting, which has been significantly altered by the graduate housing now surrounding its once open hilltop site. Despite the alterations to the setting, Warren Hall has integrity to convey its historic and architectural significance. It is eligible for listing in the National Register and California under Criterion A/1 and Criterion C/3 at the local level of significance, and is considered a historic resource under CEQA.

CHARACTER-DEFINING FEATURES

For a property to be considered historic, the essential physical features (or character-defining features) that enable a property to convey its historic integrity must be evident. To be eligible, a property must clearly contain enough of those characteristics, and these features must also retain a sufficient degree of integrity. This includes:

Character-defining features, which are those elements or architectural components that establish the visual character of the property.

Significant spaces, which are rooms or spaces that are important to a property because of their size, height, proportion, configuration, and function.

See Attachment A for a brief physical description and select photographs of Warren Hall. The character-defining features and significant spaces for Warren Hall include the following:

- Two-story, U-shaped plan with flat roof
- Massing as intersecting rectangular volumes
- Three linear wings
    - Concrete screens with geometric design
    - Visible edge of concrete floor plates with recessed base
    - Exterior window wall system set between structural bays
    - Scored concrete ends with minimal openings
- Circulation cores

    - Glazed connector between the north and west wings with walls of aluminum-framed glazing displaying a concrete stair
    - Vertically-patterned concrete walls
    - Open staircases
- Entrance pavilion
    - Glazed window wall at entrances
    - Vertically-patterned concrete walls at the exterior and interior
    - Exterior window wall system set between structural bays
    - Skylights
    - Floating stair and platform
- Thick, concrete walls in the radiation facility
- Greenhouse with its glazed and concrete walls, and glazed gable roof
- Original aluminum and steel windows throughout
- Interior
    - Double-loaded corridors
    - Concrete stair and railing at glazed connector
    - Original "atrium" space in the entrance pavilion
    - Aluminum-framed glazed wall with wood doors leading to the "atrium"
    - Pebble aggregate concrete paver floors and a concrete wall with vertical pattern in the "atrium"

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) is state legislation (Pub. Res. Code §21000 et seq.), which provides for the development and maintenance of a high quality environment for the present-day and future through the identification of significant environmental effects.[1] CEQA applies to "projects" proposed to be undertaken or requiring approval from state or local government agencies. In accordance with CEQA Guidelines Section 15378, a "Project" is defined as "…the whole of an action, which has the potential for resulting in either a direct change in the environment, or a reasonably foreseeable indirect physical change in the environment" and which involves an activity directly undertaken by a public agency, an activity that requires public agency assistance or entitlement, or an activity that requires discretionary approval by a public agency.[2] Historic and

[1] "CEQA Guidelines," California Natural Resources Agency, accessed June 10, 2016, http://resources.ca.gov/ceqa/guidelines/.
[2] Ibid.

cultural resources are considered to be part of the environment. In general, the lead agency must complete the environmental review process as required by CEQA.

A building may qualify as a historic resource if it falls within at least one of four categories listed in CEQA Guidelines Section 15064.5(a), which are defined as:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register) (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4850 et seq.).

2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1 (g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Pub. Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Pub. Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Pub. Resources Code sections 5020.1(j) or 5024.1.[3]

Properties listed or formally determined eligible for listing in the National Register National Register are listed automatically in the California Register.[4] As such, they are considered historic resources under CEQA.

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[3] Pub. Res. Code SS5024.1, Title 14 CCR, Section 4850 et seq.

[4] California Office of Historic Preservation, *Technical Assistant Series No. 7, How to Nominate a Resource to the California Register of Historic Resources* (Sacramento: California Office of State Publishing, 2001),11.

THRESHOLD FOR SIGNIFICANT IMPACTS

According to CEQA, a "project with an effect that may cause a substantial adverse change in the significance of an historic resource is a project that may have a significant effect on the environment."[5] Substantial adverse change is defined as: "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historic resource would be materially impaired."[6] The significance of an historical resource is materially impaired when a project "demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance" and that justify or account for its inclusion in, or eligibility for inclusion in, the California Register.[7]

Thus, a project may cause a substantial change in a historic resource but still not have a significant adverse effect on the environment as defined by CEQA, as long as the impact of the change on the historic resource is determined to be less-than-significant, negligible, neutral, or even beneficial. Projects that comply with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (the Standards) benefit from a regulatory presumption that they would have a less-than-significant adverse impact on a historic resource.[8]

PROPOSED PROJECT DESCRIPTION

The proposed project is a 2017 amendment to the UCLA Long Range Development Plan, originally adopted in 2002 and amended first in 2009, that would add 1.5 million gross square feet (gsf) of student housing at five sites on the UCLA campus in Westwood. With increased enrollment due to the university's commitment to enroll more California residents, housing guarantees to undergraduate students, and increased demand for undergraduate and graduate housing, UCLA has identified the potential to develop up to 6,900 beds within the 1.5 million gsf by developing the five campus sites.

The five sites identified are:

1. Lot 15 in the Northwest zone, which is currently a surface parking lot with two storage/maintenance buildings;

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[5] CEQA Guidelines subsection 15064.5(b).

[6] CEQA Guidelines subsection 15064.5(b)(1).

[7] CEQA Guidelines subsection 15064.5(b)(2).

[8] CEQA Guidelines subsection 15064.5(b)(3). Project that meet the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (1995), Weeks and Grimmer are also considered mitigated to a level of less than a significant impact on the historic resource.

2. Warren Hall in the Southwest zone, which includes Warren Hall and the Hillblom Islet Research Center;
3. University Extension (UNEX), located in the Bridge zone between the Health Sciences zone and the Southwest Zone, and current location of the UNEX building;
4. Bradley, located in the Northwest zone and is currently an undeveloped sloped area; and
5. Drake Stadium, in the Central zone, where the proposed housing structure would be developed over the existing concourse.

SITE SPECIFIC PROJECT DESCRIPTIONS

1. Lot 15 Site

Two buildings for undergraduate housing are proposed for the Lot 15 site that would replace the existing parking lot and maintenance buildings. The new buildings total approximately 353,000 gross square feet (gsf) and would accommodate up to 1,800 undergraduate beds. The buildings are expected to be mid-rise construction with 8 to 10 levels.

Their design will relate to the 1960s high-rise residential buildings nearby, which are primarily concrete and glass. Building materials and finishes would include integral color stucco cladding; metal panel siding; pre-cast panels; expressed cast-in-place concrete stem walls; cementitious panel cladding; a commercial-grade, anodized aluminum sash; enameled sheet metal accent trims; and a low-slope membrane roof. Building materials for hardscape would include cast-in-place concrete with brick banding.

2. Warren Hall Site

The proposed development for the Warren Hall site calls for demolition of the existing Warren Hall and construction of three residential buildings for undergraduate and graduate housing. The three buildings would total approximately 650,000 gsf and accommodate up to 2,350 beds (1,862 undergraduate and 488 graduate beds).

The buildings will cover the entire site and extend to the corner of Weyburn Avenue and Weyburn Terrace with a tower element at the corner that may be as tall as 125 feet. The buildings will be mid-rise buildings with between 8 to 10 levels and will be arranged to form an interior courtyard. The design is at a preliminary conceptual phase, and no architectural designs have been developed. The intent is for the buildings to be designed in a Southern California Mission Revival style consistent with the housing that was built around Warren Hall in the early 2000s.

3. **UNEX Site**
   The proposed development for the UNEX site calls for demolition of the existing University Extension (UNEX) building and construction of three residential buildings for undergraduate housing. The three buildings would total approximately 350,000 gsf and accommodate up to 1,350 beds. There will be one low-rise building up to 3 levels, one mid-rise up to 9 levels, and one high-rise up to 20 levels.

   The building designs are intended to take cues from the surrounding neighborhood, which include the commercial and residential areas of Westwood Village, as well as the UCLA campus.

4. **Bradley Site**
   Two buildings for undergraduate housing are proposed for the Bradley site, which would replace the existing undeveloped sloped area at the northeast corner of Gayley Avenue and Strathmore Avenue. The new buildings total approximately 122,000 gsf and would accommodate up to 600 undergraduate beds. The buildings are expected to be mid-rise construction with 7 to 8 levels. Their design will relate to the surrounding UCLA campus buildings and will follow the UCLA Physical Design Framework.

5. **Drake Stadium Site**
   The proposed development for the Drake Stadium site includes one building that would be built above over the existing concourse. The new building would be approximately 240,000 gsf, rise to 9 levels as a mid-rise building, and accommodate up to 800 undergraduate beds. Its design will follow the UCLA Physical Design Framework and maintain continuity with UCLA campus architecture.

ANALYSIS OF PROPOSED PROJECT IMPACTS

This section analyzes the project-specific, indirect, and cumulative impacts of the proposed project on historic resources, as required by CEQA.

PROJECT-SPECIFIC IMPACTS

Of the five proposed development sites, only the Warren Hall site has been identified as having an eligible historic resource. The 1971 University Extension Building at the UNEX site had previously been identified as a potential historic resource through SurveyLA, but upon further evaluation by Page & Turnbull, it was found not to be eligible for the California Register or National Register.

For the Warren Hall site, the proposed project anticipates full demolition of Warren Hall in order to construct new student housing. The site is expected to be developed within the next five years.

As Warren Hall is eligible for listing in the National Register and California Register, it is considered a historic resource for the purposes of evaluation under CEQA and its demolition would meet CEQA's threshold for a significant adverse impact.

Mitigation measures are included in this report, which, if implemented, can reduce the impact of the proposed project. However, since the proposed project demolishes a historic resource, the impact cannot be mitigated to less-than-significant levels. Therefore, the project-specific impact is significant and unavoidable.

INDIRECT IMPACTS

Based on the CEQA Guidelines noted above, a proposed project can have a significant adverse impact if it changes the immediate surroundings of a historic resource so that the significance of the resource is "materially impaired." A historic resource's significance is materially impaired when it can no longer convey its significance that justify its eligibility as a historic resource; in other words, when it has lost its integrity.

Integrity is the ability of a resource to convey its historic significance through its physical features and is defined as "the authenticity of property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic period."[9]

The *National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation* identifies seven aspects or qualities that in various combinations define integrity.[10] These seven aspects are generally defined as follows:

- Location is the place where the historic property was constructed.
- Design is the combination of elements that create the form, plans, space, structure and style of the property.

[9] National Park Service, National Register Bulletin Number 16A: How to Complete the National Register Registration Form, (Washington D.C.: National Park Service, 1991), 4.
[10] National Park Service, National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation, (Washington D.C.: National Park Service, 1997), 44.

- Setting addresses the physical environment of the historic property inclusive of the landscape and spatial relationships of the building/s.
- Materials refer to the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form the historic property.
- Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history.
- Feeling is the property's expression of the aesthetic or historic sense of a particular period of time.
- Association is the direct link between an important historic event or person and a historic property.

For historic districts to retain integrity as a whole, the majority of the components that make up the district's historic character must possess integrity. In addition, the relationships among the district's components must be substantially unchanged since the period of significance.

Known and Potential Historic Resources in the Vicinity

Below is a list of the known and potential historic resources in the immediate vicinity of the five development sites (Table 1 and Attachment B). The known historic resources are those that are listed in the National Register, California Register, or as a City of Los Angeles Historic-Cultural Monument (HCM). The potential historic resources are those that have been identified in a qualified survey and given with a CHRIS status code of 1 through 5. In addition, Pauley Pavilion, the 1965 basketball arena on the UCLA campus, was determined eligible for listing in the National Register and California Register through a Historic Resource Assessment conducted by Chattel Architecture, Planning & Preservation in 2009.

The known and potential historic resources list was developed from:

- Records search from the South Central Coastal Information Center (SCCIC) for the project area, requested by Psomas. Information mostly gathered from the CHRIS Directory of Properties in the Historic Property Data File for Los Angeles County, dated April 5, 2012 and highlighted with addresses in the project area, as well as attached Department of Parks and Recreation (DPR) 523 forms.

- Map view of HistoricPlacesLA.org, the online information system of the City of Los Angeles' significant historic resources, which includes designated HCMs and SurveyLA findings.
- SurveyLA results for the Westwood Community Plan Area, published by the City of Los Angeles' Office of Historic Resources, but not yet in HistoricPlacesLA.org

Table 1: Known and Potential Historic Resources in the Vicinity of Proposed Project Sites

	Name	Address	Built Date	Status Code	Status / Source	Significance
A	University Crest Residential Historic District	Sunset Blvd., Veteran Ave., Montana Ave., and Sepulveda Blvd.	1929-1959	3S; 3CS; 5S3	NR, CR, and locally eligible / SurveyLA	Cohesive collection of Period Revival residential buildings
B	Strathmore Apartment	11005 W. Strathmore Dr.	1937	1S, 5S1	NR-listed, HCM #351	International Style multi-family residential building by Richard Neutra
C	Phi Gamma Delta Fraternity House	11023 W. Strathmore Dr.	1931	3S; 3CS; 5S3	NR, CR, and locally eligible / SurveyLA	Spanish Colonial Revival multi-family residential building; associated with Fraternity Row
D	Apartment Building	931 S. Gayley Ave.	1947	3S; 3CS; 5S3	NR, CR, and locally eligible / SurveyLA	Streamline Moderne multi-family residential building
E	Gayley Terrace	959 S. Gayley Ave.	1940	5S1	HCM #363	Spanish Colonial Revival multi-family residential building
F	Commercial Building	1015 S. Gayley Ave.	1947	3S; 3CS; 5S3	NR, CR, and locally eligible / SurveyLA	Late American Commercial Revival commercial building
G	Los Angeles National Cemetery	Wilshire Blvd.	1888-present	1D	NR-listed	Contributor to West Los Angeles VA Historic District listed in National Register in 2014
H	Fox Village Theatre	959 S. Broxton Ave.	1931	5S1	HCM #362	Spanish Colonial Revival movie theater
I	Fox Bruin Theater	926 S. Broxton Ave.	1937	5S1	HCM #361	Art Deco movie theater by S. Charles Lee

	Name	Address	Built Date	Status Code	Status / Source	Significance
J	El Paseo	1001 S. Broxton Ave.	1931	3S; 3CS; 5S3	NR, CR, and locally eligible / SurveyLA	Spanish Colonial Revival commercial building associated with original development of Westwood
K	Beta Theta Pi Fraternity House	581 S. Gayley Ave.	1930	3S; 3CS; 5S3	NR, CR, and locally eligible / SurveyLA	Spanish Colonial Revival multi-family residential building; associated with Fraternity Row
L	University Lutheran Chapel	10915 W. Strathmore Dr.	1965	3CS;5 S3	CR and locally eligible / SurveyLA	Mid-Century Modern/Expressionist institutional building
M	Sheats Apartments	10919 W. Strathmore Dr.	1949	5S1	HCM #367	Modern multi-family residential building by John Lautner
N	Phi Kappa Sigma Fraternity House	10938 W. Strathmore Dr.	1930	3S; 3CS; 5S3	NR, CR, and locally eligible / SurveyLA	Mediterranean Revival multi-family residential building by Webber & Spaulding; associated with Fraternity Row
O	Theta Xi Fraternity House	629 S. Gayley Ave.	1929	3S; 3CS; 5S3	NR, CR, and locally eligible / SurveyLA	Spanish Colonial Revival multi-family residential building by Witmer & Watson; associated with Fraternity Row
P	Hardman-Hanson Hall	500 S. Landfair Ave.	1972	3CS;5 S3	CR and locally eligible / SurveyLA	Brutalist multi-family residential building
Q	Pauley Pavilion	301 Westwood Plaza	1965	n/a	NR, CR eligible / individual evaluation	Rise of sports at university; association with Coach John Wooden; Brutalist design/ space frame by Welton Becket

NR: National Register; CR: California Register; HCM: Los Angeles Historic-Cultural Monument

Analysis of Indirect Impacts

1. Lot 15 Site

The University Crest Residential Historic District (A) is a potential historic district near Lot 15. Identified by SurveyLA as eligible for listing in the National Register, California Register, and as a local historic district, the potential district is an early 20th century residential subdivision with one to two story single-family residences constructed between 1929 and 1959 in various Period Revival styles. Many homes are credited to well-known local architects, including J.R. Davidson, Wallace Neff, and Rudolph Schindler.

The potential district's eastern boundary is at Veteran Avenue, directly across from the UCLA campus and the Lot 15 site. The UCLA campus is behind fencing along this portion of Veteran Avenue, and the proposed development site is further set back from Veteran Avenue by a parking lot that is not currently visible from Veteran Avenue **(Figure 2)**.

Figure 2: The potential University Crest Residential Historic District at left (west) across Veteran Avenue from the western boundary of the UCLA campus at right (east). The Lot 15 development site is set well back behind the campus fence. Source: Google, 2017.

According to UCLA, the two buildings proposed for the Lot 15 site will be 8 to 10 levels and comparable in height to the student housing that currently exists around Lot 15. As the existing student housing is minimally visible from Veteran Avenue and the potential historic district, the proposed development at Lot 15 is likely to also be minimally visible from these vantage points.

It will not have a material impact on the integrity of the potential University Crest Residential Historic District, nor will it be highly visible from the potential district with negligible impacts on integrity of setting or feeling. As such, the proposed development at the Lot 15 site will not have an indirect impact on nearby historic resources.

2. Warren Hall Site

Several known and potential historic resources are in the vicinity of the Warren Hall site. To the north are two apartment buildings on Strathmore Drive: the Richard Neutra-designed Strathmore Apartments (B) that is listed in the National Register and as an HCM, and the Phi Gamma Delta Fraternity House (C) that SurveyLA found eligible for national, state, and local listing. To the south are two additional apartment buildings and a commercial building on Gayley Avenue: a Streamline Moderne apartment building at 931 S. Gayley Avenue (D), the Spanish Colonial Revival style Gayley Terrace at 959 S. Gayley Avenue (E), and the American Colonial Revival commercial building at 1015 S. Gayley Avenue (F). Gayley Terrace is an HCM while the other two were found by SurveyLA to be eligible for national, state, and local listing. West and down the hill from Warren Hall is the Los Angeles National Cemetery (G), which is part of the West Los Angeles Veteran Administration Historic District that is listed in the National Register.

The back of Streamline Moderne apartment building (D) and Gayley Terrace (E) share an alley with the existing Warren Hall, which will become an access point for the new proposed development. Although these two properties are close to the Warren Hall site, they will not be physically impacted by the proposed development, nor will their integrity of location, design, materials, workmanship, feeling, or association be affected. The setting will change, as three new mid-rise buildings will replace the current low-rise Warren Hall. However, this part of Westwood Village is fully developed with various building types and heights and the proposed development will be consistent with the existing character of the surrounding urban fabric of the area. The change in setting from the development at the Warren Hall site is not expected to affect the setting of the Streamline Moderne apartment building, Gayley Terrace, or the commercial building further south on Gayley Avenue (F) to the point that they would lose their historic integrity.

The other known and potential resources in the vicinity of Warren Hall are sufficiently far as not to be materially impaired by the proposed development. The new buildings will likely not be visible from Strathmore Apartments (B) and the Phi Gamma Delta Fraternity House (C) as the Warren Hall site is lower on the hillside and other developments obstruct the view between the sites.

The existing Warren Hall building is minimally visible from the Los Angeles National Cemetery (G), and the new housing constructed around Warren Hall in the early 2000s screen the development site from the cemetery. Although the new proposed buildings will be a few stories taller than the existing buildings, they will be behind the current student housing and will appear as part of the urban setting. Taller high-rise buildings are already visible from various parts of the cemetery, and the new development at the Warren Hall site will not significantly change the setting around the cemetery. Overall, the proposed development at the Warren Hall site is not expected to have indirect impacts on historic resources in its vicinity.

3. UNEX Site

The Streamline Moderne apartment building (D) and Gayley Terrace (E) are also in the vicinity of the UNEX site, as are three other resources: Fox Village Theatre at 959 S. Broxton Avenue (H), Fox Bruin Theater at 926 S. Broxton Avenue (I), and El Paseo, a Spanish Colonial Revival commercial building at 1001 S. Broxton Avenue (J). The Fox Village Theatre and Fox Bruin Theater are listed as HCMs while 1001 S. Broxton Avenue was found by SurveyLA to be eligible for national, state, and local listing.

The proposed development for the UNEX site will replace the existing seven-story building with three buildings of varying heights. One will be a low-rise at about three stories and one similar to the existing building at about nine stories. The third building will be about 20 stories tall. The current UNEX building is one of the more visibly tall buildings in this part of Westwood Village, and it is expected that the proposed development will be equally visible.

The 20-story building will introduce a high-rise where one does not currently exist, but other tall buildings dating from the mid-20th century to the early 21st century are found in Westwood Village. None of the known or potential historic resources are directly adjacent to the UNEX site, and while the new development will be visible from each of the resources, each is sufficiently distant from the UNEX site so that the new development will not materially impact any aspects of their integrity. SurveyLA found Westwood Village itself does not retail sufficient historic integrity to be considered an eligible historic district.

4. Bradley Site

The Bradley site is currently a landscaped area at the western boundary of the UCLA campus and is located at the northeast corner of Gayley Avenue and Strathmore Avenue. At the northwest corner of the same intersection is a potential historic resource, the Beta Theta Pi Fraternity House at 581 S. Gayley Avenue (K), which SurveyLA identified as eligible for national, state, and local listing for its Spanish Colonial Revival architecture **(Figure 3)**. West, up the hill

on Strathmore Drive, are three additional resources: the Mid-Century Modern University Lutheran Chapel at 10915 W. Strathmore Drive (L), the Sheats Apartments by master architect John Lautner at 10919 W. Strathmore Drive (M), and the Phi Kappa Sigma Fraternity House, a Mediterranean Revival building at 1093 W. Strathmore Drive (N). The Sheats Apartments is an HCM, while the other two properties were identified by SurveyLA. The University Lutheran Chapel is eligible only for state and local listing as it was not yet 50 years old at the time of the survey.

Two additional resources were identified by SurveyLA slightly further from the Bradley site: the Spanish Colonial Revival-style Theta Xi Fraternity House at 629 S. Gayley Avenue (O) and the Brutalist-style Hardman-Hanson Hall at 500 S. Landfair Avenue (P).

The Bradley site has two mid-rise buildings proposed that would be 7 to 8 levels. According to UCLA, they are expected to be approximately equal in height with the University Lutheran Chapel. The proposed renderings show an L-shaped building and a rectangular building places at an angle to the corner. Landscaped areas between the building massing allow the corner to retain some sense of openness directly across from the Beta Theta Pi Fraternity House and its large front lawn. The design avoids overwhelming the resource and materially impacting the setting aspect of its integrity while maintaining the building's visibility at the corner.

Figure 3: The Bradley development site at right (east) with Beta Theta Pi Fraternity House at left (west), looking north on Gayley Avenue at Strathmore Drive. Source: Google, 2017.

For the other known and potential historic resources in the vicinity of the Bradley site, they are generally sufficiently distant from the site so that the proposed development will not affect any

aspects of their integrity. The new development will likely be visible to some degree from the identified resources, but will appear to be part of the area's urban fabric.

5. **Drake Stadium Site**
   Only Pauley Pavilion is within the vicinity of the Drake Stadium site. The proposed building will be a mid-rise building above the existing concourse and will be lower in height compared to the existing residential dorms directly adjacent. Based on rendering of the proposed project at Drake Stadium, the new building will be minimally visible from Pauley Pavilion, so no indirect impacts to historic resources are expected.

Overall, the proposed project will not alter the surroundings of any known or potential historic resources in the vicinity of the five proposed development sites to the extent that the integrity of the historic resources would be materially impacted. As such, no indirect impacts on historic resources is anticipated from the proposed project.

CUMULATIVE IMPACTS

CEQA defines cumulative impacts as follows:

> "Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.[11]

UCLA does not have specific guidelines for determining cumulative impacts. A useful guide may be the *L.A. CEQA Thresholds Guide* used by the City of Los Angeles, which directs review of related projects that

- Are located within the same National Register district, Historic Preservation Overlay Zone (HPOZ), general area, neighborhood, or community; or
- Involve resources with the same historical context or use (e.g., by the same architect or in the same period).

[11] CEQA Guidelines, Article 20, subsection 15355.

The analysis should determine the impact of the related projects and consider the cumulative impacts of the proposed and related projects as they relate to the population of resources that would remain.

Several UCLA campus projects are approved or under construction and shown in Attachment B:

- Margan Apartments Redevelopment
- Anderson School Building Addition (over parking structure 5)
- Mo Ostine Basketball Center (practice facility)
- Wasserman Football Center

Other recent and proposed projects Westwood known to UCLA include:

- Westwood Hotel at 10955 W. Wilshire Blvd.—Also known as the Wilshire Gayley project, the development demolished an existing one-story commercial building at the northwest corner of Gayley Avenue and Wilshire Blvd. as part of a development for a 29-story apartment/condo/hotel building. The demolished building was not identified as a potential historic resource in the project's environmental review.
- Studio 11024 at 11024 W. Strathmore Drive—Recently completed, this project constructed a new 6-story apartment building on a vacant lot, according to its environmental documents.

Warren Hall has an unusual historic context related to nuclear medicine research, and no proposed or related projects in the vicinity are known to affect other buildings related to nuclear medicine. As an example of Midcentury Modern institutional design, many other similar building types exist both on the UCLA campus and in the surrounding Westwood community. The proposed projects on the UCLA campus and in the Westwood area are not impacting known Midcentury Modern institutional buildings and cumulative impacts to this resource type is not anticipated. Works by the architectural firm Neptune & Thomas are found throughout Southern California, including in the San Gabriel Valley and San Diego. The surrounding proposed projects do not appear to affect buildings designed by the firm.

With no related projects in the general area impacting buildings associated with nuclear medical research, Midcentury Modern institutional buildings, or projects by Neptune & Thomas, the demolition of the Warren Hall as part of the proposed project will not result in cumulative impacts. Therefore, the proposed project would not result in cumulative impacts.

PROPOSED MITIGATION MEASURES

Historic resource mitigations are typically developed on a case-by-case basis, providing the opportunity to tailor them to the characteristics and the significance of the resource and the impacts to it. Common mitigation measures for demolition consist of documentation of the resource, typically to the standards of the Historic American Buildings Survey (HABS) and preparation of a salvage plan for significant architectural features and materials. While in some instances these mitigation measures are judged to reduce the level of adverse impacts to a less than significant level, they often do not alter the loss to community character and collective history. Section 15126.4(b)(2) of the Public Resources Code is clear in this regard: "In some circumstances, documentation of an historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment would occur."

The following mitigation measure is recommended to document Warren Hall's significance and association with the Laboratory for Nuclear Medicine and Radiation Biology and as an example of Midcentury Modern institutional architecture. However, even with the implementation of the mitigation measures, adverse impacts to historic resources will not be mitigated to less than significant levels.

RECORDATION

Prior to the demolition of Warren Hall at 900 Weyburn Place, the building shall be documented to the standards of the Historic American Building Survey (HABS) program. The documentation shall include

- Written description and narrative report following the most recent HABS Guidelines for Historical Reports, Outline Format.
- Large format (4" x 5" or larger negative) photographs following the most recent HABS Photography Guidelines. Views shall include the setting; important site features; all exterior façades and wings, including the radiation facility and greenhouse; detail views of significant exterior architectural features, such as the concrete screen, exterior window wall, and glazed connector with visible interior stair; and interior views of significant spaces and features like the "atrium" space in the entrance pavilion.
- A site plan showing Warren Hall's location in relationship to the setting and surrounding streets.
- A photo key using the site plan shall be included as well.
- Duplicates of historic photographs and drawings, if available.

A qualified professional who meets the requirements of the *Secretary of the Interior's Professional Qualifications Standards* for history, architectural history, or historic architecture, shall prepare the documentation. Upon completion, copies of the documentation materials shall be offered and sent to appropriate archives and repositories willing to accept the documentation, including the Southern California Information Center at Cal State University, Fullerton; UCLA Library, Special Collections; Los Angeles Public Library Central Library and/or local branch as appropriate; and local preservation organizations and historical societies that express interest.

INTERPRETIVE PROGRAM

To commemorate Warren Hall's role in the history of nuclear medicine development, a publicly accessible interpretive program shall be developed. The interpretive program shall reflect the history of the Laboratory for Nuclear Medicine and Radiation Biology, which may include its precursor, the UCLA Atomic Energy Project and its association with the Atomic Energy Commission, as well as the medical and scientific achievements of the laboratory once it was housed at Warren Hall. The program shall also include discussion of Warren Hall's architectural design as well as architects Neptune & Thomas.

Creative solutions regarding medium and format of the interpretive program are encouraged, but all interpretive materials shall be accessible to the general public and displayed in a setting that is appropriate within the context of Warren Hall as well as open and inviting in nature. Examples include an exhibit at UCLA Library, Special Collections, a video documentary, an online website, an on-site display at the replacement development, etc. Interpretive media should include both text and graphics, which may include historic photographs, maps, architectural drawings, or other imagery. UCLA also may wish to salvage a portion of the concrete screen wall to incorporate into the interpretive program, if appropriate.

The interpretative program shall be developed with the assistance of a qualified architectural historian or historic preservation professional who meets the *Secretary of the Interior's Professional Qualifications Standards*. It shall be completed and available to the public prior to or upon completion of the replacement project at the Warren Hall site.

CONCLUSION

The Long Range Development Plan Amendment (2017) and Student Housing Projects propose to demolish UCLA's Warren Hall at 900 Weyburn Place, which is a historic resource eligible for listing in the National Register of Historic Places and the California Register of Historical Resources. The

demolition will have a significant unavoidable adverse impact to a historic resource. The impact cannot be mitigated to a less than significant level. Nevertheless, the measures outlined help to recognize, commemorate, archive, and educate the public about Warren Hall and the Laboratory for Nuclear Medicine and Radiation Biology that was housed in Warren Hall between 1961 and 1981.

The proposed project is not expected to have indirect impacts to known or potential historic resources in the vicinity of the five potential development sites, nor does it contribute to any cumulative impacts on historic resources as defined by CEQA.

Please feel free to contact me at 213-221-1202 or chou@page-turnbull.com if there are any questions.

Sincerely,

Flora Chou, LEED AP
Senior Associate / Cultural Resource Planner

ATTACHMENTS

- Attachment A: Brief Building Description with photographs of the existing Warren Hall
- Attachment B: Map of Known and Potential Historic Resources in the Vicinity of Proposed Project Sites

ATTACHMENT A: BRIEF BUILDING DESCRIPTION

Warren Hall is a two-story building with a partial basement that is U-shaped in plan and designed in the Midcentury Modern style **(Figure 4)**. It has a reinforced concrete frame with a cast-in-place concrete column grid approximately 24 feet on center sitting on concrete footings with some lift-slab concrete walls throughout. The flat-roof building mainly consists of intersecting rectangular volumes of various types. Three main linear wings containing laboratories and offices intersect to create the open service and parking court at the east (rear). Warren Hall is set back on the hill above the northeast corner of Weyburn Avenue and Weyburn Terrace and screened from Weyburn Avenue by mature trees at the corner. Due to the sloped topography, the building is tucked into the hill at the site's northeast corner.

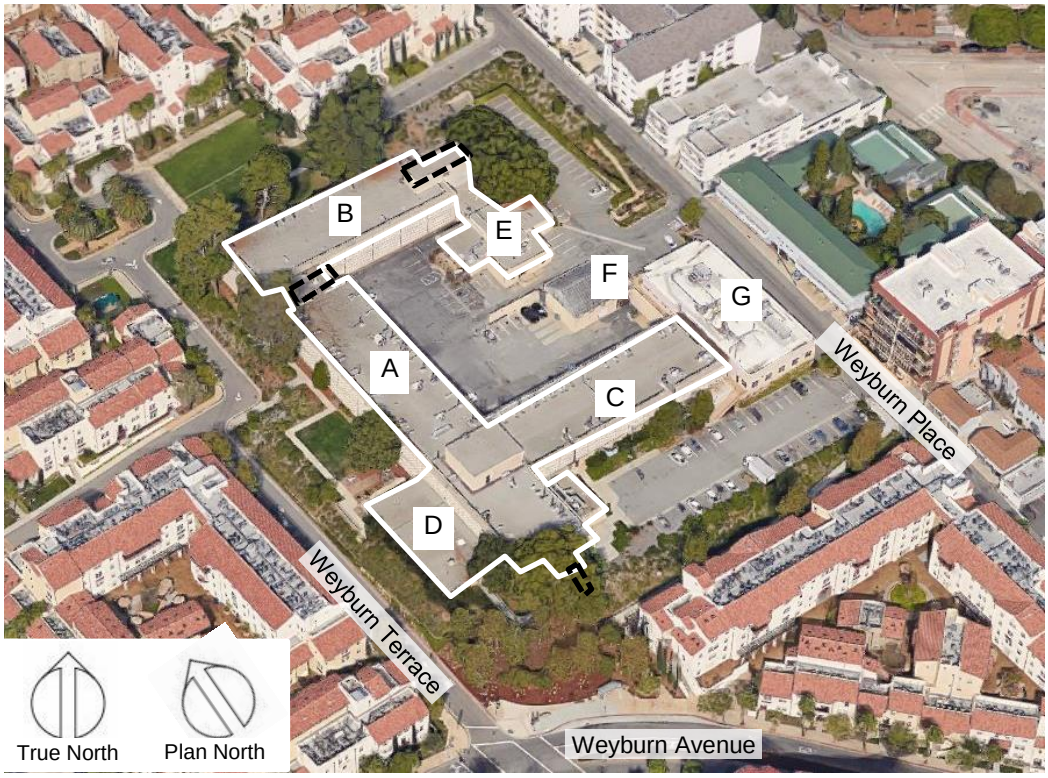

Figure 4: Aerial view of Warren Hall. Warren Hall consists of a west wing (A), north wing (B), and south wing (C), with an entrance pavilion (D), radiation facilities (E), and a stand-alone greenhouse (F). The Hillblom Islet Research Center (G) was added to the site in 2004 but not attached to Warren Hall. Dashed outlines are the circulation cores visible from the exterior. Source: Google Maps, 2016, edited by Page & Turnbull

Of the three main wings, the longest bar is the west wing (A).[12] It is in the north-south direction at the west side of the site and at the front of the building **(Figure 5**Figure 1**)**. The north wing (B) connects to the west wing via a recessed connector that houses a floating concrete stair supported by a concrete "T" visible through a fully glazed wall. The south wing (C) intersects the west wing at the rear (east) with no connector. It is set back from the southern-most end of the west wing to form a parking lot at the south end of the site, where a one-story volume extends from the rear of the west wing. A one-story entrance pavilion (D) is in line with the south wing and massing at the front (west) side of the west wing overlooking Weyburn Terrace. Exterior circulation cores are at the ends of the north and west wings.

Figure 5: West (front) façade of the west wing, along Weyburn Terrace, looking south. Note the glazed connector to the north wing (left) and the entrance pavilion in the background (right).

The long exterior walls of each wing generally consist of a window wall system composed of 3-feet wide steel-framed units. Each unit typically includes a fixed, single-light window topped by a transom

[12] Warren Hall and the surrounding buildings are sited at an angle west of true north. For the purpose of this report, northwest is considered plan north and referred to as "north."

that is fixed or awning between a panel of flexboard above and below the window **(Figure 6).**[13] The window walls are set back from the floor plate edge behind panels of concrete screen, which are the most prominent and visible exterior feature of Warren Hall **(Figure 7)**. The concrete screens appear to be concrete blocks cut with a hexagon opening and tied together by steel rods. A gap of approximately three feet is between the window walls and the concrete screens. In some locations, a glazed door replaces a window wall module to provide access to the gap space.

Figure 6: Typical exterior window wall system at the three wings with glazing and flexboard. Note the building's steel column grid.

Figure 7: Detail of concrete screen placed in front of the window wall system.

The entrance pavilion (D) has concrete walls with the vertically-oriented pattern mimicking vertical wood siding at the north and south façades **(Figure 8)**. The north façade includes an extended overhang protecting the main entrance's entry, which has a pair of non-original aluminum-framed glazed doors set within a glazed wall. The main entrance at the pavilion is accessed by broad concrete steps from a floating concrete deck, that is in turn accessed by floating steps from the front landscaped terrace **(Figure 9)**. The landscape terrace extends to the entrance at the glazed connector to the south, which has a set of stairs leading from Weyburn Terrace.

[13] Flexboard was a cement fiber board made to be more flexible than plywood. Some flexboard used asbestos as the fiber in the boards. No information has been found about the kind of fibers that is in the Warren Hall flexboard.

Figure 8: Entrance pavilion with floating stairs and platform, looking south.

Figure 9: Terrace at the west façade, looking north.

At the rear of the building, in the service court, is a one-story section that was originally designed as the building's radiation facilities **(Figure 10)**. Cross-shaped in plan, this section contains two windowless rooms for x-ray and gamma ray materials with three- to five-foot concrete walls at the east and south ends. Across the service court entrance is the greenhouse, which is a two-story gabled concrete structure with a mostly glazed second floor and roof **(Figure 11)**. The first floor has smooth concrete walls that are taller in the service court than at the east façade to address the sloped site. Due to the grade change, the east façade's second floor has a paired sliding door accessible by a concrete ramp; it also has cement-asbestos panels in place of glass, according to the original drawings.

Figure 10: Radiation facilities, with a southern addition marked by a door and two windows, looking northwest.

Figure 11: West (left) and south (right) façades of the greenhouse, looking northeast.

Campus Map

UCLA LRDP Amendment (2017) and Student Housing Projects

PSOMAS

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Appendix F

Preliminary Geotechnical Investigations

PRELIMINARY GEOTECHNICAL INVESTIGATION

PROPOSED STUDENT HOUSING DEVELOPMENT
UCLA - LOT 15
LOS ANGELES, CALIFORNIA

GEOCON
WEST, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

UCLA CAPITAL PROGRAMS
LOS ANGELES, CALIFORNIA

PROJECT NO. A9060-06-10

JANUARY 18, 2017

Project No. A9060-06-10
January 18, 2017

Mr. Eric Heggen
UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, California 90095

Subject: PRELIMINARY GEOTECHNICAL INVESTIGATION
PROPOSED STUDENT HOUSING DEVELOPMENT
UCLA – LOT 15
LOS ANGELES, CALIFORNIA

Dear Mr. Heggen:

In accordance with your authorization of our proposal dated August 19, 2016, we have performed a preliminary geotechnical investigation for the proposed student housing development located at UCLA - Lot 15 in the City of Los Angeles, California. The accompanying report presents the findings of our study, and our conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction. Based on the results of our investigation, it is our opinion that the site can be developed as proposed.

The primary intent of this preliminary report is to address the potential geologic hazards and geotechnical conditions that could impact site development, and to provide preliminary recommendations for design and construction. Additional analyses will be required in order to provide comprehensive geotechnical recommendations.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned.

Very truly yours,

GEOCON WEST, INC.

REGISTERED PROFESSIONAL ENGINEER
H. HARRY DERKALOUSDIAN
C 79694
CIVIL
STATE OF CALIFORNIA

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Staff Engineer

Harry Derkalousdian
PE 74946

Susan F. Kirkgard
CEG 1754

(EMAIL) Addressee

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PRELIMINARY GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a preliminary geotechnical investigation for the proposed student housing development located at UCLA - Lot 15 in the City of Los Angeles, California (see Vicinity Map, Figure 1). The purpose of the investigation was to evaluate subsurface soil and geologic conditions underlying the site and, based on conditions encountered, to provide preliminary conclusions and recommendations pertaining to the geotechnical aspects of design and construction.

We previously performed a fault rupture hazard investigation at the site (Geocon West, Inc., 2014). This prior investigation included advancement of nine cone penetration tests (CPTs), nine continuous-core hollow-stem auger borings, and six large-diameter bucket auger borings along an approximately north-northwest trending exploration transect generally perpendicular to the trend of observed and inferred splays of the Hollywood Fault. The results of our investigation indicated no active faults traverse the site.

The scope of this investigation included a site reconnaissance, field exploration, laboratory testing, engineering analysis, and the preparation of this report. The site was explored as part of our current investigation on November 14 and 15, 2016 by excavating three 8-inch diameter borings utilizing a bucket auger drilling machine. The borings were excavated to depths of 35½ feet and 40½ feet below the existing ground surface. The approximate locations of the exploratory borings are depicted on the Site Plan (see Figure 2). A detailed discussion of the field investigation, including boring logs, is presented in Appendix A. The logs of our previous borings and CPTs are presented in Appendix C.

Laboratory tests were performed on selected soil samples obtained during the investigation to determine pertinent physical and chemical soil properties. Appendix B presents a summary of the laboratory test results.

The recommendations presented herein are based on analysis of the data obtained during the investigation and our experience with similar soil and geologic conditions. References reviewed to prepare this report are provided in the *List of References* section.

If project details vary significantly from those described herein, Geocon should be contacted to determine the necessity for review and possible revision of this report.

2. SITE AND PROJECT DESCRIPTION

The site is located in the northwest portion of the UCLA campus, south of the Hitch Residential Suites and west of De Neve Drive (Figure 2, Site Plan). The site is bounded by the Southern Regional Library access road to the east and south, the Sycamore Tennis courts and a campus recycling facility on the west, and the Hitch Residential Suites on the north.

The site consists of two roughly level pads separated by an approximately 15-foot-high, 1:1¼ (horizontal to vertical gradient) south-facing slope. A south-facing 5- to 10-foot-high, 1-3/4:1 to 2:1 (H:V) graded slope is present along the northern site boundary and a west-facing approximately 5- to 20-foot-high, 2:1 (H:V) graded slope is present along a majority of the eastern site boundary that ascends to the paved Southern Regional Library access road. The upper pad is currently used for surface parking (Lot 15) and a portable office structure and two conex containers utilized for storage are situated around the southern edge of the pad. The lower pad is currently occupied by three single-story buildings, including a greenhouse, a stucco warehouse and a larger metal warehouse ("Blue Goose"), a portable wood trailer utilized as offices and conex storage containers. The southern portion of the lower pad is a dirt lot that is utilized as the "mason's yard" for storing materials and vehicles. An approximately 5- to 25-foot-high, 2:1 (H:V) graded slope descends from the southwest, south and southeast portion of the lower pad to the Southern Regional Library access road below.

Topography at the site has been altered by past grading associated with the construction of the current site uses. Generally, the upper pad (Lot 15) elevation is approximately 512 to 513 feet MSL and the lower pad is elevation is approximately 496 to 497 feet MSL. Elevation differences between the two graded pads are approximately 15 to 16 feet.

A plan showing "Cut/Fill Areas" within the northwest portion of the UCLA campus (Geotechnologies, undated plan) shows that the central portion of the lower pad may have been a pre-existing ravine that has been filled to create the current topography. The depth of fill indicated on the plan is a maximum thickness of greater than 15 feet in the southern portion of the lower pad and in the eastern portion of the upper pad.

Based on the information provided by the Client, it is our understanding that the proposed development will consist of several eight-story structures that will be constructed at or near existing terraced grades. Due to the preliminary nature of the project, formal plans depicting the proposed development are not available for inclusion in this report, and additional exploration and/or a revised geotechnical investigation report may be necessary once final floor elevations are determined.

Based on the preliminary nature of the design at this time, wall and column loads were not available. It is anticipated that column loads for the proposed residential structures will be up to 1200 kips, and wall loads will be up to 12 kips per linear foot.

Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

3. PRIOR SITE INVESTIGATIONS

A previous geotechnical investigation for a different proposed development (proposed athletic field, tennis courts and support buildings) was performed at the site (and the immediate adjacent site to the west) by Geotechnologies in 2013 (Geotechnologies, 2013). Geotechnologies also performed supplemental borings in 2014 and prepared an addendum geotechnical investigation report (Geotechnologies, 2014). The previous investigations included drilling 10 hollow stem auger borings and 7 test pits. Three of the borings were drilled at the site to depths between 35 and 50 feet beneath the existing ground surface. Artificial fill was encountered to a maximum depth of one foot on the upper pad (borings B1 and B2) and a maximum depth of 14 feet on the lower pad (boring B5). The fill consists of fine- to coarse-grained silty sand to sandy silt and clayey silt with some gravel and minor organics and debris. The fill materials are underlain by native older alluvial soils (Dibblee, 1991; Hoots, 1930) consisting of silty clay, clayey silt, sandy silt and silty sand with varying amounts of gravel to depths approximately 15 to 30½ feet beneath the existing ground surface. Bedrock underlies the alluvial soils consisting of sandstone and siltstone of the Monterey Formation to the maximum depth drilled. Groundwater was not encountered during the previous site exploration.

4. GEOLOGIC SETTING

The site is located on the western flank of an older elevated terrace east of the Dry Canyon Drainage, approximately 1.6 miles west of Coldwater Canyon, along the southern flank of the Santa Monica Mountains. The Santa Monica Mountains, formed during regional uplift, trend east-west on the north side of the Los Angeles Basin and constitute the southern boundary of the Transvers Ranges geomorphic province. Structurally, the Santa Monica Mountains are a broad west-plunging anticline. The south flank of the anticline is truncated by the Hollywood-Santa Monica Fault Zone which separates the mountain range from the Los Angeles Basin to the south. Rock types exposed in the eastern Santa Monica Mountains consist of metasedimentary rocks associated with the Jurassic age Santa Monica Slate, Cretaceous age igneous rocks, and Cretaceous age and Miocene age sedimentary rocks.

Regionally, the site is located within the Transverse Ranges geomorphic province, near the boundary of the Peninsular Ranges geomorphic province. The Transverse Ranges is characterized by east-west geologic structures in contrast to the Peninsular Ranges, characterized by northwest-trending geologic structures. The Hollywood and Santa Monica fault zones, located south of the site, form the boundary between the Peninsular Ranges and the Transverse Ranges geomorphic.

5. SOIL AND GEOLOGIC CONDITIONS

Based on our field investigation and published geologic maps of the area, the site is underlain by artificial fill, Pleistocene age older alluvial deposits and debris flows consisting of gravel, sand, silt and clay derived from the Santa Monica Mountains to the north (Hoots, 1930; Dibblee, 1991), and Miocene age sedimentary bedrock of the Monterey Formation (Dibblee, 1991; California Geological Survey, 2010). The subsurface geologic conditions at the site are illustrated on the geologic sections (Figures 2A through 2C). Detailed stratigraphic profiles of the materials encountered at the site are provided on the boring logs presented in Appendix A and Appendix C.

5.1 Artificial Fill

Artificial fill was encountered in our field explorations to a maximum depth of 18 feet below existing ground surface. The artificial fill generally consists of grayish brown, yellowish brown or reddish brown sand, silty sand and sandy silt with some localized zones of abundant coarse gravel. The artificial fill is characterized as dry to slightly moist and firm to hard or medium dense to dense. The fill is likely the result of past grading or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored.

5.2 Older Alluvium

Pleistocene age alluvium was encountered beneath the fill. The alluvium generally consists of reddish brown sandy silt, silt, and silty sand and sand with varying amounts of fine to coarse gravel. The alluvial soils are primarily fine- to medium-grained, slightly moist, and dense or hard.

5.3 Debris Flow Deposits

Pleistocene age debris flow deposits were locally encountered in the previous borings drilled on the lower pad (Geocon, 2014). The debris flows consist primarily of sand and silty sand that is fine- to medium-grained with abundant gravel. Gravel clasts are predominantly slate and to a lesser extent siltstone and sandstone derived from the Santa Monica Mountains to the north. Locally, well sorted sand beds are present within the debris flow deposits. These deposits are not differentiated from the older alluvial deposits on the geologic sections (Figures 2A through 2C).

5.4 Monterey Formation

The Pleistocene age older alluvium and debris flows are underlain by sedimentary bedrock units of the Miocene age Monterey Formation (Dibblee, 1991). Bedrock was encountered in boring B1, B2, and B3 at depths of 24, 25 and 21.8 feet below the existing ground surface, respectively. As observed in the borings, the bedrock is predominantly yellowish brown siltstone interbedded with silty sandstone and clayey siltstone that can be characterized as fine-grained, massive to moderately bedded, thinly bedded, moderately to highly weathered, moderately to highly fractured, and locally faulted. Bedding observed during downhole logging of the current and previous borings at the site typically strikes N30E to N55E and dips 16 to 42 degrees to the southeast.

6. GROUNDWATER

The site is underlain by shallow bedrock and is elevated above the regional groundwater basin. Review of the Seismic Hazard Zone Report for the Beverly Hills Quadrangle (California Division of Mines and Geology [CDMG], 1998) indicates that historic groundwater level information is not available for the site and immediate site vicinity. Groundwater information presented in this document is generated from data collected in the early 1900's to the late 1990s. Based on current groundwater basin management practices, it is unlikely that groundwater levels will ever exceed the historic high levels.

Groundwater was not encountered in our current field explorations, drilled to a maximum depth of 40½ feet below the existing ground surface. Additionally, groundwater was not encountered in our previous explorations drilled in 2014 to a maximum depth of 65 feet beneath the existing ground surface (Geocon, 2014). Based on the lack of groundwater in our borings, and the depth of proposed construction, groundwater is neither expected to be encountered during construction, nor have a detrimental effect on the project. However, it is not uncommon for groundwater to be perched on top of the less permeable bedrock units and for groundwater levels to vary seasonally or for groundwater seepage conditions to develop where none previously existed, especially in impermeable fine-grained soils which are heavily irrigated or after seasonal rainfall. In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the immediate site vicinity. Proper surface drainage of irrigation and precipitation will be critical for future performance of the project. Recommendations for drainage are provided in the S*urface Drainage* section of this report (see Section 8.19).

7. GEOLOGIC HAZARDS

7.1 Surface Fault Rupture

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (CGS, formerly known as CDMG) for the Alquist-Priolo Earthquake Fault Zone Program (CGS, 2016; Bryant and Hart, 2007). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a state-designated Alquist-Priolo Earthquake Fault Zone (Bryant and Hart, 2007) or a city-designated Preliminary Fault Rupture Study Area (City of Los Angeles, 2016) for surface fault rupture hazards. Based on the results of our previous fault rupture hazard investigation at the site, no active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low. However, the site is located in the seismically

active Southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults. The faults in the vicinity of the site are shown in Figure 3, Regional Fault Map.

The nearest surface trace of an active fault to the site is the Santa Monica Fault Zone located approximately 1.6 miles to the south (City of Los Angeles, 2016; CGS, 2010). Other nearby active faults are the Newport-Inglewood Fault Zone, the Hollywood Fault, the Malibu Coast Fault, the Raymond Fault, and the Palos Verdes Hills Fault located approximately 1.8 miles east, 2.1 miles east, 11.7 miles west-southwest, 13.2 miles northeast, and 16.8 miles south of the site, respectively (Ziony and Jones, 1989). The active San Andreas Fault Zone is located approximately 38 miles northeast of the site (Ziony and Jones, 1989).

The closest potentially active fault to the site is the western segment of the Hollywood Fault that is mapped as traversing the UCLA campus (Hoots, 1930; Dibblee, 1991). Based on our previous fault rupture hazard investigations at the campus, the Hollywood Fault is likely located south of the project site and north of the Southern Regional Library facility.

Other nearby potentially active faults are the Overland Fault, the Charnock Fault, and the MacArthur Park Fault located approximately 2.6 miles southeast, 4.0 miles south, and 9.8 miles east of the site, respectively (Ziony and Jones, 1989).

Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3.0 kilometers. The October 1, 1987 M_w 5.9 Whittier Narrows earthquake and the January 17, 1994 M_w 6.7 Northridge earthquake were a result of movement on the Puente Hills Blind Thrust and the Northridge Thrust, respectively. These thrust faults and others in the Los Angeles area are not exposed at the surface and do not present a potential surface fault rupture hazard at the site; however, these deep thrust faults are considered active features capable of generating future earthquakes that could result in moderate to significant ground shaking at the site.

7.2 Seismicity

As with all of Southern California, the site has experienced historic earthquakes from various regional faults. The seismicity of the region surrounding the site was formulated based on research of an electronic database of earthquake data. The epicenters of recorded earthquakes with magnitudes equal to or greater than 5.0 in the site vicinity are depicted on Figure 4, Regional Seismicity Map. A partial list of moderate to major magnitude earthquakes that have occurred in the Southern California area within the last 100 years is included in the following table.

LIST OF HISTORIC EARTHQUAKES

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
San Jacinto-Hemet area	April 21, 1918	6.8	86	ESE
Near Redlands	July 23, 1923	6.3	69	E
Long Beach	March 10, 1933	6.4	42	SE
Tehachapi	July 21, 1952	7.5	72	NW
San Fernando	February 9, 1971	6.6	24	N
Whittier Narrows	October 1, 1987	5.9	21	E
Sierra Madre	June 28, 1991	5.8	29	ENE
Landers	June 28, 1992	7.3	116	E
Big Bear	June 28, 1992	6.4	93	E
Northridge	January 17, 1994	6.7	11	NW
Hector Mine	October 16, 1999	7.1	130	ENE

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the proposed structures are designed and constructed in conformance with current building codes and engineering practices.

7.3 Ground Motion Hazard Analysis

Ground motion hazard analyses were performed in accordance with ASCE 7-10 and Section 1613A of the 2016 CBC utilizing the computer program EZFRISK (version 7.65) in conjunction with data from the U.S. Seismic Design Maps web application provided by the USGS.

7.3.1 Probabilistic Seismic Hazard Analysis

The probabilistic Maximum Considered Earthquake (MCER) response spectrum consists of the spectral response accelerations which are expected to achieve a 1 percent probability of collapse within a 50-year period, evaluated at 5 percent damping. The procedure described in ASCE 7-10 Section 21.2.1.1 as Method 1 was used to evaluate the probabilistic response spectrum.

The spectral response accelerations having a 2 percent chance of exceedance in 50 years were evaluated at 5 percent damping. The probabilistic analysis was performed using the ground motion prediction equations (GMPEs) of Abrahamson and Silva (2008) NGA MRC (next generation attenuation, maximum rotated component), Boore and Atkinson (2008) NGA USGS 2008 MRC, Campbell-Bozorgnia (2008) NGA USGS 2008 MRC, and Chiou-Youngs (2007) NGA USGS 2008 MRC. Each GMPE was assigned an equal weight and the maximum rotated component of ground motion derived from the relationships was evaluated. It is our opinion that the use of these four GMPEs is appropriate for the subject site.

The probabilistic analysis was performed by evaluating the ground motions generated by active faults within a 120 mile (200 kilometer) radius of the site. The soil underlying the site was modeled as a Site Class "C" with a corresponding average shear wave velocity (VS30) of 560 meters per second.

The GMPE of Campbell and Borzorgnia requires that the depth to where the shear wave velocity reaches 2.5 kilometers per second (Z2.5) be defined. Additionally, the GMPE of Abrahamson and Silva requires that the depth to where the shear wave velocity reaches 1 kilometer per second (Z1.0) be defined. The values of Z2.5 and Z1.0 were estimated using data from the Community Velocity Model (CVM) Version 4 developed by Southern California Earthquake Data Center (SCEDC). The values of Z2.5 and Z1.0 used in the analysis are 0.37 kilometers and 310 meters, respectively.

According to ASCE 7-10 Section 21.2.1.1 Method 1, the probabilistic MCER spectral response accelerations may be determined as the product of the spectral response accelerations having a 2 percent chance of exceedance in 50 years and the risk coefficient CR. The value of CR at 0.2 seconds (CRS) and 1 second (CR1) were determined from ASCE 7-10 Figures 22-17 and 22-18, respectively. At spectral response accelerations less than or equal to 0.2 seconds, the value of CR was taken as CRS and at spectral response accelerations greater than or equal to 1.0 seconds the value of CR was taken as CR1. Liner interpolation was used to evaluate the values of CR between 0.2 and 1.0 seconds.

7.3.2 Deterministic Seismic Hazard Analysis

The deterministic analysis was performed using the same GMPEs as the probabilistic analysis, as well as the same active faults within a within a 120 mile (200 kilometer) radius of the site and the same values of Z1.0 and Z2.5. The 84th percentile of the maximum rotated component of ground motion derived from the GMPEs was evaluated.

Based on the results of the analysis, the fault source resulting in the highest spectral accelerations from 0 to 4 seconds would be a magnitude 7.4 event on the Santa Monica fault.

The 84th percentile of the maximum rotated component of ground motion was compared to the Deterministic Lower Limit MCER response spectrum, and the maximum values taken as the deterministic MCER response spectrum.

7.3.3 Site-Specific Response Spectrum

The lesser of the probabilistic and deterministic MCER response spectrums is the Site-Specific MCER. Two-thirds of the Site-Specific MCER is the Design Earthquake (DE) Response Spectrum, provided the results are not less than 80 percent of the General Design Response Spectrum determined by ASCE 7-10 Section 11.4.5.

Graphical representations of the analyses are presented on Figures 5 and 6. The Site-Specific Design Earthquake response spectrum at 5 percent damping is presented on Figure 6 and as Table 1.

7.3.4 Mapped Acceleration Parameters

The following table summarizes the mapped acceleration parameters obtained from the 2016 California Building Code (CBC; Based on the 2015 International Building Code [IBC] and ASCE 7-10), Chapter 16A Structural Design, Section 1613A Earthquake Loads. The data was calculated using the computer program U.S. Seismic Design Maps, provided by the USGS. The short spectral response uses a period of 0.2 second.

MAPPED SPECTRAL ACCELERATIONS

Parameter	Value	2016 CBC Reference
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	2.254g	Figure 1613.3.1(1)
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.817g	Figure 1613.3.1(2)

7.3.5 Site-Specific Seismic Design Criteria

Based the site-specific ground motion hazard analysis performed, and in accordance with the ASCE 7-10 Section 21.4, site-specific seismic design parameters shall be derived using the results of the site-specific ground motion hazard analysis.

The parameter SDS shall be obtained from the site-specific spectra at a period of 0.2 second and not less than 90 percent of the peak spectra acceleration at any period larger than 0.2 second. The parameter SD1 shall be taken as the greater of the site-specific spectral acceleration at a period of 1.0 second or twice the spectral acceleration at a period of 2 seconds (whichever is greater). The values of SMS and SM1 shall be taken as 1.5 times the site-specific values of SDS and SD1. The site-specific seismic design parameters shall not be less than 80 percent of the general seismic design values determined by ASCE 7-10 Section 11.4.

The following table presents the site-specific seismic design parameters based on the site-specific ground motion hazard analysis.

SITE-SPECIFIC SEISMIC DESIGN PARAMETERS

Parameter	Value
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	2.343g
Site Class Modified MCE_R Spectral Response Acceleration – (1 sec), S_{M1}	1.035g
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.562g
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.69g

7.3.6 Site-Specific Peak Ground Acceleration

The site-specific Maximum Considered Earthquake (MCEG) geometric mean peak ground acceleration was evaluated in accordance with ASCE 7-10 Section 21.5.

The probabilistic geometric mean peak ground acceleration was evaluated using the computer program EZFrisk. The analysis was performed using the GMPE of Abrahamson and Silva (2008) NGA (next generation attenuation), Boore and Atkinson (2008) NGA USGS 2008, Campbell-Bozorgnia (2008) NGA USGS 2008, and Chiou-Youngs (2007) NGA USGS 2008. Each GMPE was assigned an equal weight. The analysis used the same faults, Site Class, and values of Z2.5 and Z1.0 as described above. The probabilistic geometric mean peak ground acceleration (probabilistic MCEG) was evaluated at a 2 percent probability of exceedance with a 50-year period.

The deterministic geometric mean peak ground acceleration (deterministic MCEG) was evaluated as the 84th percentile geometric mean peak ground acceleration. The deterministic MCEG shall not be less than 0.5FPGA, where FPGA is determined from ASCE 7-10 Table 11.8-1 with the value of PGA taken as 0.5g.

The site-specific MCEG peak ground acceleration is taken as the lesser of the probabilistic and deterministic MCEG, provided the value is not less than 80 percent of the value of PGAM as determined by ASCE 7-10 Equation 11.8.1.

ASCE 7-10 SITE-SPECIFIC PEAK GROUND ACCELERATION

Parameter	Value	ASCE 7-10 Reference
Site-Specific MCE_G Peak Ground Acceleration, PGA_M	0.925g	Section 21.5

7.4 Liquefaction Potential

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The current standard of practice, as outlined in the "Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California" and "Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California" requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction.

The State of California Seismic Hazard Zone Map for the Beverly Hills Quadrangle (1999) indicates that the site is not located in an area designated as having a potential for liquefaction. Also, the older alluvial and debris flow deposits and the underlying shallow bedrock, by their dense nature, are not prone to liquefaction. Groundwater was not encountered in our current borings (drilled to a maximum depth of 40½ feet) or our previous borings (drilled to a maximum depth of 65 feet) at the site. Based on these considerations, the potential for liquefaction and associated ground deformations beneath the site is considered very low.

7.5 Slope Stability

The site is located within a City of Los Angeles Hillside Grading Area and is not located within a Hillside Ordinance Area (City of Los Angeles, 2016). The County of Los Angeles Safety Element (Leighton, 1990), indicates the site is within a "hillside area". However, the site is not within an area identified as having a potential for seismic slope instability (CDMG, 1999).

As previously discussed, the site consists of two roughly level pads separated by an approximately 15-foot-high, 1:1¼ (horizontal to vertical gradient) south-facing slope. Also, several other low-height slopes are present at the site that include a south-facing 5- to 10-foot-high, 1-3/4:1 to 2:1 (H:V) graded slope along the northern site boundary and a west-facing approximately 5- to 20-foot-high, 2:1 (H:V gradient) graded slope along a majority of the eastern site boundary that ascends to the paved Southern Regional Library access road. Also, an approximately 5- to 25-foot-high, 2:1 (H:V) graded slope descends from the southwest, south and southeast portion of the lower pad to the Southern Regional Library access road below.

The existing on-site 2:1 (H:V) slopes are considered grossly stable in the current configuration. Also the approximately 15-foot-high, 1:1¼ (H:V) graded slope between the upper and the lower pads is considered grossly stable in its current configuration as it exposes dense Pleistocene age older alluvial deposits that are considered homogeneous and lack any through-going planes of weakness (such as bedding or joints). There are no known landslides near the site, nor is the site in the path of any known or potential landslides. Based on these considerations, the potential for slope stability hazards to adversely affect the proposed development is considered low.

As previously indicated, the bedding within the Monterey Formation typically strikes N30E to N55E and dips 16 to 42 degrees to the southeast. Therefore, east-facing and south-facing excavation walls will expose unsupported (or adverse) bedding orientations.

7.6 Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. Based on a review of the Los Angeles County Safety Element (Leighton, 1990), the site is not located within a potential inundation area for an earthquake-induced dam failure. The probability of earthquake-induced flooding is considered very low.

7.7 Tsunamis, Seiches, and Flooding

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. Therefore, flooding resulting from a seismically-induced seiche is considered unlikely.

The site is within an area of minimal flooding (Zone X) as defined by the Federal Emergency Management Agency (LACDPW, 2016b).

7.8 Oil Fields & Methane Potential

Based on a review of the California Division of Oil, Gas and Geothermal Resources (DOGGR) Oil and Gas Well Location Map W1-5, the site is not located within the limits of an oilfield and oil or gas wells are not located in the immediate site vicinity. However, due to the voluntary nature of record reporting by the oil well drilling companies, wells may be improperly located or not shown on the location map and undocumented wells could be encountered during construction. Any wells encountered during construction will need to be properly abandoned in accordance with the current requirements of the DOGGR.

The site is not located within the boundaries of a city-designated Methane Zone or Methane Buffer Zone (City of Los Angeles, 2016). Since the site is not located within the boundaries of a known oil field, the potential for the presence of methane or other volatile gases at the site is considered low. However, should it be determined that a methane study is required for the proposed development it is recommended that a qualified methane consultant be retained to perform the study and provide mitigation measures as necessary.

7.9 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 General

8.1.1 It is our opinion that neither soil nor geologic conditions were encountered during the investigation that would preclude construction of the proposed project. The primary intent of this preliminary report is to address the potential geologic hazards and geotechnical conditions that could impact site development, and to provide preliminary recommendations for design and construction. Additional analyses will be required in order to provide comprehensive geotechnical recommendations.

8.1.2 Various amounts of artificial fill were encountered. Boring 3, located near the south side of the site, encountered existing artificial fill to a depth of 19 feet below the ground surface and is believed to be an isolated condition. As discussed in the *Soil and Geologic Conditions* (see Section 4), the deep artificial fill may be attributed to the pre-existing ravine that has been filled to create the current topography. The deep fill encountered in the vicinity of Boring 3 is not considered a certified fill, and like other earth fill encountered on the site in other the borings, it is our opinion that the existing fill, in its present condition, is not suitable for direct support of proposed foundations or slabs. The existing site soils are suitable for re-use as engineered fill provided the recommendations in the *Grading* section of this report are followed (See Section 8.4).

8.1.4 Based on these considerations, it is recommended that the upper two feet of existing earth materials within the building footprint area of the northern terraced pad be excavated and properly compacted for foundation and slab support. Deeper excavations (Boring B3) should be conducted as necessary to completely remove all existing artificial fill at the direction of the Geotechnical Engineer (a representative of Geocon). The excavation should be backfilled and properly compacted. The limits of existing fill and/or soft soil removal will be verified by the Geocon representative during site grading activities. Recommendations for earthwork are provided in the *Grading* section of this report (see Section 8.4).

8.1.5 Subsequent to the recommended grading, the proposed structures may be supported on a conventional shallow spread foundation system deriving support in newly placed engineered fill. As an alternative, proposed foundations in the northern terraced pad may derive support in the competent older alluvial soils found at or below a depth of two feet below the ground surface, and in the southern terraced pad may derive support in the Monterey Formation found at or below a depth of 22 feet below the ground surface. Geocon will provide oversight and direction during excavation and grading.

3.1 Once proposed building loads become available and elevations are established, additional analyses will be required to evaluate the anticipated total and differential settlements between the foundation elements. Updated foundation design recommendations will be provided as necessary under separate cover.

8.1.7 All excavations must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon). Prior to placing any fill, the excavation bottom must be proof-rolled with heavy equipment in the presence of the Geotechnical Engineer (a representative of Geocon West, Inc.).

3.2 Concrete slabs-on-grade may derive support on newly placed engineered fill and/or directly on undisturbed alluvial soils. Any soils that are disturbed should be properly compacted for slab support. Where necessary, the existing artificial fill and alluvial soils are suitable for re-use as an engineered fill provided the procedures outlined in the Grading section of this report are followed (see Section 8.4).

8.1.8 It is anticipated that stable excavations for the recommended grading can be achieved and maintained with sloping measures. However, excavations in close proximity to an adjacent property line or on-grade structure may require special excavation measures in order to maintain lateral support of offsite improvements. Excavation recommendations are provided in the *Temporary Excavations* section of this report (Section 8.18).

8.1.9 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied-in to the proposed structure, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill. Where excavation and compaction cannot be performed, such as adjacent to property lines, foundations may be deepened to bear in undisturbed competent alluvial soils and must be observed and approved by a Geocon representative. If the soils exposed in the excavation bottom are soft, compaction of the soft soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

8.1.10 Where new paving is to be placed, it is recommended that all existing fill and soft alluvial soils be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all existing fill and soft alluvial soils in the area of new paving is not required; however, paving constructed over existing uncertified fill or unsuitable alluvial soil may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of subgrade soil should be scarified and properly compacted for paving support. Paving recommendations are provided in *Preliminary Pavement Recommendations* section of this report (see Section 8.13).

8.1.11 Once the design and foundation loading configuration for the proposed structure proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Based on the final foundation loading configurations, the potential for settlement should be re-evaluated by this office.

8.1.12 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

8.2 Soil and Excavation Characteristics

8.2.1 The in-situ soils can be excavated with moderate effort using conventional excavation equipment. Some caving should be anticipated in unshored excavations, especially where granular soils are encountered.

8.2.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly sloped, shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of adjacent existing improvements.

8.2.3 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping and possibly shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 8.18).

8.2.4 The upper 5 feet of existing site soils encountered during this investigation are considered to have a “low” expansive potential (EI = 44); and are classified as “expansive” based on the 2016 California Building Code (CBC) Section 1803.5.3. Recommendations presented herein assume that the building foundations and slabs will derive support in these materials.

8.3 Minimum Resistivity, pH, and Water-Soluble Sulfate

8.3.1 Potential of Hydrogen (pH) and resistivity testing, as well as chloride content testing, were performed on representative samples of on-site soil to generally evaluate the corrosion potential to surface utilities. The tests were performed in accordance with California Test Method Nos. 643 and 422 and indicate that the soils are considered “corrosive” and “severely corrosive” with respect to corrosion of buried ferrous metals on site. The results are presented in Appendix B (Figure B7) and should be considered for design of underground structures. Due to the corrosive potential of the soils, it is recommended that ABS pipes are utilized in lieu of cast-iron for subdrains and retaining wall drains.

8.3.2 Laboratory tests were performed on representative samples of the on-site soil to measure the percentage of water-soluble sulfate content. Results from the laboratory water-soluble sulfate tests are presented in Appendix B (Figure B7) and indicate that the on-site soil possess a "negligible" sulfate exposure to concrete structures as defined by 2016 CBC Section 1904 and ACI 318-11 Section 4.2 and 4.3.

8.3.3 Geocon West, Inc. does not practice in the field of corrosion engineering and mitigation. If corrosion sensitive improvements are planned, it is recommended that a corrosion engineer be retained to evaluate corrosion test results and incorporate the necessary precautions to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soils.

8.4 Grading

8.4.1 Grading is anticipated to include preparation of building pad, excavation of site soils for proposed foundations, utility trenches, and placement of backfill for utility trenches.

8.4.2 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer, geotechnical engineer, and, if applicable, building official in attendance. Special soil handling requirements can be discussed at that time.

8.4.3 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill encountered during exploration is suitable for re-use as an engineered fill, provided any encountered oversize material (greater than 6 inches) and any encountered deleterious debris is removed.

8.4.4 Grading should commence with the removal of all existing vegetation and existing improvements from the area to be graded. Deleterious debris such as wood and root structures should be exported from the site and should not be mixed with the fill soils. Asphalt and concrete should not be mixed with the fill soils unless approved by the Geotechnical Engineer. All existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein. Once a clean excavation bottom has been established it must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.).

8.4.5 Based on these considerations, it is recommended that the upper 2 feet of existing earth materials within the building footprint area of the northern terraced pad be excavated and properly compacted for foundation and slab support. Deeper excavations (Boring B3) should be conducted as necessary to remove deeper artificial fill or soft alluvial soil at the direction of the Geotechnical Engineer (a representative of Geocon). The limits of existing

fill and/or soft alluvial soils removal will be verified by the Geocon representative during site grading activities.

8.1.5 Subsequent to the recommended grading, the proposed structures may be supported on a conventional shallow spread foundation system deriving support in newly placed engineered fill. As an alternative, proposed foundations in the northern terraced pad may derive support in the competent older alluvial soils found at or below a depth of 2 feet below the ground surface, and in the southern terraced pad may derive support in the Monterey Formation found at or below a depth of 22 feet below the ground surface. Geocon will provide oversight and direction during excavation and grading.

8.4.6 All excavations must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon). Prior to placing any fill, the upper 12 inches of the excavation bottom must be scarified, moistened, and proof-rolled with heavy equipment in the presence of the Geotechnical Engineer (a representative of Geocon West, Inc.).

3.3 All fill and backfill soils should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to optimum moisture content, and properly compacted to a minimum 95 percent of the maximum dry density in accordance with ASTM D 1557 (latest edition).

8.4.8 Foundations for small outlying structures, such as block walls less than 6 feet high, planter walls or trash enclosures, which will not be tied to the proposed building, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill that extends laterally at least 12 inches beyond the foundation area. Where excavation and proper compaction cannot be performed or is undesirable, foundations may derive support directly in the undisturbed alluvial soils found at or below a depth of 18 inches, and should be deepened as necessary to maintain a minimum 12-inch embedment into the recommended bearing materials. If the soils exposed in the excavation bottom are soft or loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

8.4.9 It is anticipated that stable excavations for the recommended grading can be achieved with sloping measures. However, if excavations in close proximity to an adjacent property line and/or structure are required, special excavation measures may be necessary in order to maintain lateral support of the existing offsite improvements. Excavation recommendations are provided in the *Temporary Excavations* section of this report (Section 8.18).

8.4.10 All imported fill shall be observed, tested, and approved by Geocon West, Inc. prior to bringing soil to the site. Rocks larger than six inches in diameter shall not be used in the fill. If necessary, import soils used as structural fill should have an expansion index less than 30 and corrosivity properties that are equally or less detrimental to that of the existing onsite soils (see Figure B7). If import soils will be utilized in the building pad, the soils must be placed uniformly and at equal thickness at the direction of the Geotechnical Engineer (a representative of Geocon West, Inc.). Soils can be borrowed from non-building pad areas and later replaced with imported soils.

8.4.11 Utility trenches should be properly backfilled in accordance with the requirements of the Green Book (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least 1 foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of Geocon). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of 2-sack slurry is also acceptable as backfill. Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon).

8.4.12 Where new paving is to be placed, it is recommended that all existing fill and soft alluvial soils be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all existing fill and soft soils in the area of new paving is not required; however, paving constructed over existing artificial fill or unsuitable alluvial soil may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of soil should be scarified, moisture conditioned to near optimum moisture content, and compacted to at least 95 percent relative compaction for paving support. Paving recommendations are provided in *Preliminary Pavement Recommendations* section of this report (see Section 8.13).

8.4.13 All trench and foundation excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding materials, fill, steel, gravel or concrete.

8.5 Shrinkage

8.5.1 Shrinkage results when a volume of material removed at one density is compacted to a higher density. A shrinkage factor of up to 10 percent should be anticipated when excavating and compacting the upper 5 feet of existing earth materials on the site to an average relative compaction of 95 percent.

8.5.2 If import soils will be utilized in the building pad, the soils must be placed uniformly and at equal thickness at the direction of the Geotechnical Engineer (a representative of Geocon West, Inc.). Soils can be borrowed from non-building pad areas and later replaced with imported soils.

8.6 Conventional Foundation Design

8.6.1 Subsequent to the recommended grading, a conventional shallow spread foundation system may be utilized for support of proposed structures provided foundations derive support in newly placed engineered fill and/or dense undisturbed old alluvium.

8.6.2 Continuous footings may be designed for an allowable bearing capacity of 2,800 pounds per square foot (psf), and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

8.6.3 Isolated spread foundations may be designed for an allowable bearing capacity of 3,200 psf, and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

8.6.4 The allowable soil bearing pressure above may be increased by 400 psf and 800 psf for each additional foot of foundation width and depth, respectively, up to a maximum allowable soil bearing pressure of 5,600 psf.

8.6.5 The allowable bearing pressures may be increased by one-third for transient loads due to wind or seismic forces.

8.6.6 If depth increases are utilized for the perimeter foundations, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

8.6.7 Continuous footings should be reinforced with four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. Reinforcement for spread footings should be designed by the project structural engineer.

8.6.8 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.

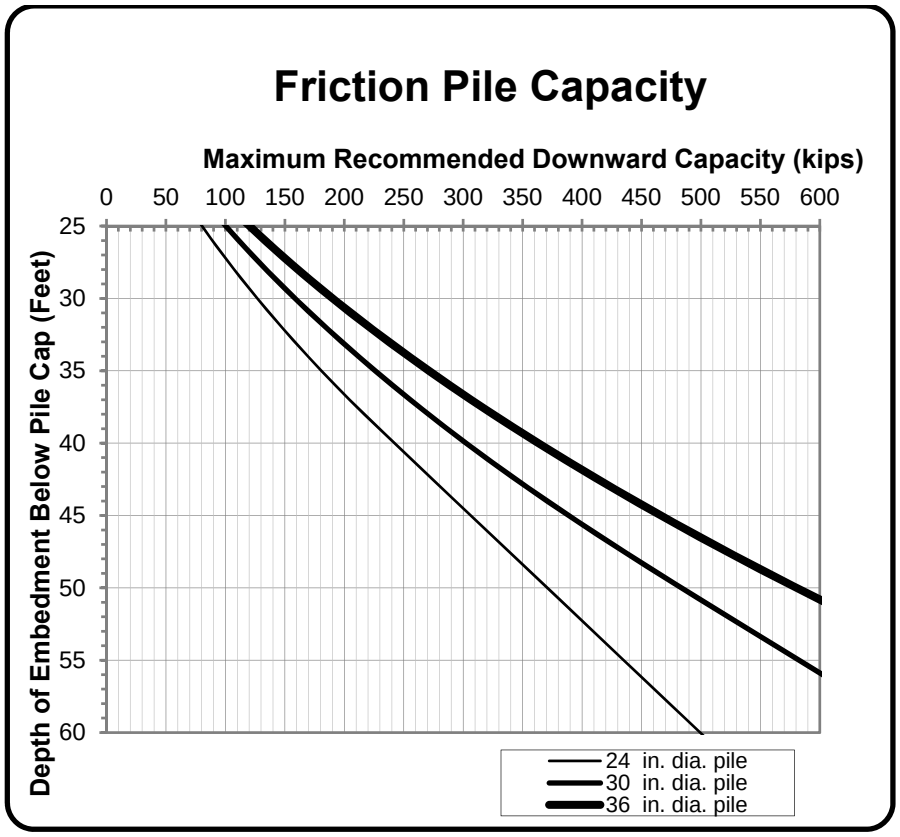
8.6.9 No special subgrade presaturation is required prior to placement of concrete. However, the slab and foundation subgrade should be sprinkled as necessary; to maintain a moist condition as would be expected in any concrete placement.

8.6.10 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.

8.6.11 This office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

8.7 Deepened Foundation Design

8.7.1 Deepened foundations consisting of drilled, cast-in-place friction piles should derive support in the undisturbed, competent Monterey Formation. For preliminary design purposes 24-, 30-, and 36-inch diameter drilled cast-in-place friction piles have been evaluated. Piles should be embedded a minimum of 25 feet below the ground surface and five feet into competent bedrock. The allowable axial capacities for embedment below the ground surface is provided in the chart below. The axial capacities are based on skin friction and end-bearing capacity is not being considered.



8.7.4 All drilled pile excavations should be continuously observed by personnel of this firm to verify adequate penetration into the recommended bearing materials. The capacity presented is based on the strength of the soils. The compressive and tensile strength of the pile sections should be checked to verify the structural capacity of the piles.

8.7.4 Single pile uplift capacity can be taken as 50 percent of the allowable downward capacity.

8.7.3 The pile capacities indicated above are for the total of dead and frequently applied live loads, and may be increased by one-third for short duration loading, which includes the effects of wind or seismic forces.

8.7.4 A continuous grade beam foundation and/or a structural slab may be placed across the top of the caisson foundations to tie the caissons in two directions, and the appropriate span between caissons should be determined by a qualified structural engineer.

8.7.5 Piles may be considered fixed at an embedment of 5 feet into competent bedrock.

8.7.6 If piles are spaced at least at least three diameters on center, no reduction in axial capacity is considered necessary for group effects. If pile spacing is closer than three pile diameters, an evaluation for group effects including appropriate reductions should be incorporated into the pile design based on pile dimension, spacing, and the direction of loading.

8.8 Deepened Foundation Installation

3.4 Casing may likely be required since caving is expected in the granular soils during deep drilled excavation. The contractor should have casing available and should be prepared to use it. If casing is used, extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than five feet. Continuous observation of the drilling and pouring of the piles by the Geotechnical Engineer (a representative of Geocon West, Inc.), is required.

3.5 Seepage was not encountered in the borings and is not anticipated during construction; however, if significant seepage is encountered after heavy rains, piles placed below the water level require the use of a tremie to place the concrete into the bottom of the hole. A tremie shall consist of a water-tight tube, with a hopper at the top. The tube shall be equipped with a device that will close the discharge end and prevent water from entering the tube while it is being charged with concrete. The tremie shall be supported so as to permit free movement of the discharge end over the entire top surface of the work and to permit rapid lowering when necessary to retard or stop the flow of concrete. The discharge end shall be closed at the start of the work to prevent water entering the tube and shall be entirely sealed at all times, except when the concrete is being placed. The tremie tube shall be kept full of concrete. The flow shall be continuous until the work is completed and the resulting concrete seal shall

be monolithic and homogeneous. The tip of the tremie tube shall always be kept about 5 feet below the surface of the concrete and definite steps and safeguards should be taken to insure that the tip of the tremie tube is never raised above the surface of the concrete.

3.6 A special concrete mix should be used for concrete to be placed below water. The design shall provide for concrete with a strength of 1,000 psi over the initial job specification. An admixture that reduces the problem of segregation of paste/aggregates and dilution of paste shall be included. The slump shall be commensurate to any research report for the admixture, provided that it shall also be the minimum for a reasonable consistency for placing when water is present. Extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than 5 feet. Continuous observation of the drilling and pouring of the piles by a representative of this firm is required.

3.7 Closely spaced piles should be drilled and filled alternately, with the concrete permitted to set at least eight hours before drilling an adjacent hole. Pile excavations should be filled with concrete as soon after drilling and inspection as possible; the holes should not be left open overnight.

8.8 Foundation Settlement

8.8.1 The maximum expected settlement for the structures supported on conventional foundations deriving support in the newly placed engineered fill and/or dense undisturbed old alluvium and designed with a maximum bearing pressure of 5,600 psf is estimated to be less than 1.25 inches and occur below the heaviest loaded element. Settlement of the foundation system is expected to occur on initial application of loading. Differential settlement is expected to be less than ½ inch over a distance of 20 feet.

3.8 The maximum expected static settlement for a structure supported on a pile foundation system supported in bedrock is estimated to be less than ¾ inch and the majority of the settlement is expected to occur on initial application of loading. Differential static settlement is not expected to exceed ½ inch between adjacent piles or pile caps.

8.8.4 Once the design and foundation loading configurations for the proposed structures proceeds to a more finalized plan, the estimated settlements presented in this report should be reviewed and revised, if necessary. If the final foundation loading configurations are greater than the assumed loading conditions, the potential for settlement should be reevaluated by this office.

8.9 Miscellaneous Foundations

8.9.1 Foundations for small outlying structures, such as block walls up to 6 feet in height, planter walls or trash enclosures which will not be tied to the proposed structure may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and compaction cannot be performed or is undesirable, such as adjacent to property lines, foundations may derive support in the undisturbed alluvial soils found at or below a depth of 12 inches, and should be deepened as necessary to maintain a minimum 12-inch embedment into the recommended bearing materials.

8.9.2 If the soils exposed in the excavation bottom are soft, compaction of the soft soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative. Miscellaneous foundations may be designed for a bearing value of 1,500 psf, and should be a minimum of 12 inches in width, 12 inches in depth below the lowest adjacent grade and 12 inches into the recommended bearing material. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.

8.9.3 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated.

8.10 Lateral Design

8.10.1 Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. An allowable coefficient of friction of 0.37 may be used with the dead load forces in the properly compacted engineered fill or dense undisturbed old alluvial soils.

8.10.2 Passive earth pressure for the sides of foundations and slabs poured against properly compacted engineered fill, dense undisturbed old alluvial soils, or bedrock may be computed as an equivalent fluid having a density of 240 pcf with a maximum earth pressure of 2,400 pcf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third. The allowable capacity may be doubled for isolated piles spaced more than three times the diameter.

3.9 Maximum recommended allowable lateral capacities for ¼ inch deflection of fixed and free-head friction piles are presented in the table below.

LATERAL LOAD CAPACITIES OF DRILLED CAST-IN-PLACE PILES

FIXED HEAD (NO HEAD ROTATION)

PILE NUMBER	PILE DIAMETER (INCHES)	Lateral Load Capacity "P" (KIPS)	Maximum Positive Moment "Mp" (LAT FORCE =P)	Maximum Negative Moment "Mp" (LAT FORCE =P)	Depth to Max Pos. Moment (Feet)	Depth to Zero Moment (Feet)	Depth to Inflection Point (Feet)	MINIMUM PILE LENGTH FOR APPLICABILITY OF LATERAL DESIGN DATA (FEET)
1	24	**43**	**1.4** P	**-5.1** P	**12**	**25**	**6.4**	25
2	30	**61**	**1.7** P	**-6.1** P	**15**	**30**	**7.6**	30
3	36	**81**	**1.9** P	**-7.1** P	**17**	**35**	**8.8**	35

FREE HEAD (HINGED)

PILE NUMBER	PILE DIAMETER (INCHES)	Lateral Load Capacity "P" (KIPS)	Maximum Moment "Mp" (LAT FORCE =P)	Depth to Zero Moment (Feet)	Depth to Maximum Moment (Feet)
1	24	**17**	**4.3** P	**23**	**7**
2	30	**25**	**5.2** P	**27**	**9**
3	36	**33**	**6.0** P	**31**	**10**

8.11 Concrete Slabs-On-Grade

8.11.1 Concrete slabs-on-grade subject to vehicle loading should be designed in accordance with the recommendations in the *Preliminary Pavement Recommendations* section of this report (Section 8.13).

8.11.2 Subsequent to the recommended grading, concrete slabs-on-grade for structures, not subject to vehicle loading, should be a minimum of 4 inches thick and minimum slab reinforcement should consist of No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions. Steel reinforcing should be positioned vertically near the slab midpoint.

8.11.3 Slabs-on-grade at the ground surface that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed directly beneath the slab. The vapor retarder and acceptable permeance should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials (ACI 302.2R-06) and should be installed in general conformance with ASTM E 1643 (latest edition) and the manufacturer's recommendations. A minimum thickness of 15 mils extruded polyolefin plastic is recommended; vapor retarders which contain recycled content or woven materials are not recommended. The vapor retarder should have a permeance of less than 0.01 perms demonstrated by testing before and after mandatory conditioning is recommended. The vapor retarder should be installed in direct contact with the concrete slab with proper perimeter seal. If the California Green Building Code requirements apply to this project, the vapor retarder should be underlain by 4 inches of

clean aggregate. It is important that the vapor retarder be puncture resistant since it will be in direct contact with angular gravel. As an alternative to the clean aggregate suggested in the California Green Building Code, it is our opinion that the concrete slab-on-grade may be underlain by a vapor retarder over 4 inches of clean sand (sand equivalent greater than 30), since the sand will serve a capillary break and will minimize the potential for punctures and damage to the vapor barrier.

8.11.4 For seismic design purposes, a coefficient of friction of 0.37 may be utilized between concrete slabs and subgrade soils without a moisture barrier, and 0.15 for slabs underlain by a moisture barrier.

8.11.5 Exterior slabs for walkways or flatwork, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Prior to construction of slabs, the upper 12 inches of subgrade should be moistened to optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Crack control joints should be spaced at intervals not greater than 10 feet and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. The project structural engineer should design construction joints as necessary.

8.11.6 The recommendations of this report are intended to reduce the potential for cracking of slabs due to settlement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

8.12 Preliminary Pavement Recommendations

8.12.1 Where new paving is to be placed, it is recommended that all existing fill and soft or unsuitable alluvial materials be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all existing artificial fill and soft alluvium in the area of new paving is not required; however, paving constructed over existing unsuitable material may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of paving subgrade should be scarified, moisture conditioned to optimum moisture content, and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

8.12.2 The following pavement sections are based on an assumed R-Value of 35. Once site grading activities are complete an R-Value should be obtained by laboratory testing to confirm the properties of the soils serving as paving subgrade, prior to placing pavement.

8.12.3 The Traffic Indices listed below are estimates. Geocon does not practice in the field of traffic engineering. The actual Traffic Index for each area should be determined by the project civil engineer. If pavement sections for Traffic Indices other than those listed below are required, Geocon should be contacted to provide additional recommendations. Pavement thicknesses were determined following procedures outlined in the *California Highway Design Manual* (Caltrans). It is anticipated that the majority of traffic will consist of automobile and large truck traffic.

PRELIMINARY PAVEMENT DESIGN SECTIONS

Location	Estimated Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
Automobile Parking And Driveways	4.0	3.0	4.0
Trash Truck & Fire Lanes	7.0	4.0	9.0

8.12.4 Asphalt concrete should conform to Section 203-6 of the "*Standard Specifications for Public Works Construction"* (Green Book). Class 2 aggregate base materials should conform to Section 26-1.02A of the "*Standard Specifications of the State of California, Department of Transportation"* (Caltrans). The use of Crushed Miscellaneous Base in lieu of Class 2 aggregate base is acceptable. Crushed Miscellaneous Base should conform to Section 200-2.4 of the "*Standard Specifications for Public Works Construction"* (Green Book).

8.12.5 Unless specifically designed and evaluated by the project structural engineer, where exterior concrete paving will be utilized for support of vehicles, it is recommended that the concrete be a minimum of 5 inches of concrete reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions. Concrete paving supporting vehicular traffic should be underlain by a minimum of 4 inches of aggregate base and a properly compacted subgrade. The subgrade and base material should be compacted to 95 percent relative compaction as determined by ASTM Test Method D 1557 (latest edition).

8.12.6 The performance of pavements is highly dependent upon providing positive surface drainage away from the edge of pavements. Ponding of water on or adjacent to the pavement will likely result in saturation of the subgrade materials and subsequent cracking, subsidence and pavement distress. If planters are planned adjacent to paving, it is recommended that the perimeter curb be extended at least 12 inches below the bottom of the aggregate base to minimize the introduction of water beneath the paving.

8.13 Retaining Walls Design

8.13.1 The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 6 feet. In the event that walls significantly higher than 6 feet are planned, Geocon should be contacted for additional recommendations.

8.13.2 Retaining wall foundations may be designed in accordance with the recommendations provided in the *Foundation Design* sections of this report (see Sections 8.6 through 8.7).

8.13.3 Retaining walls with a level backfill surface that are not restrained at the top should be designed utilizing a triangular distribution of pressure (active pressure). Restrained walls are those that are not allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, walls may be designed utilizing a triangular distribution of pressure (at-rest pressure). The table below presents recommended pressures to be used in retaining wall design, assuming that proper drainage will be maintained.

RETAINING WALL WITH LEVEL BACKFILL SURFACE

HEIGHT OF RETAINING WALL (Feet)	ACTIVE PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)	AT-REST PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)
Up to 6	30	50

8.13.5 The wall pressures provided above assume that the proposed retaining walls will support undisturbed soils. If sloping techniques are to be utilized for construction of proposed walls, which would result in a wedge of engineered fill behind the retaining walls, revised earth pressures may be required to account for the expansive potential of the soil placed as engineered fill. This should be evaluated once the use of sloping measures is established and once the geotechnical characteristics of the engineered backfill soils can be further evaluated.

8.13.6 The wall pressures provided above assume that the retaining wall will be properly drained preventing the buildup of hydrostatic pressure. If retaining wall drainage is not implemented, the equivalent fluid pressure to be used in design of undrained walls is 90 pcf. The value includes hydrostatic pressures plus buoyant lateral earth pressures.

8.13.7 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures and should be designed for each condition as the project progresses.

3.10 It is recommended that line-load surcharges from adjacent wall footings, use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.20 \times \left(\frac{z}{H}\right)}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.28 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

where x is the distance from the face of the excavation or wall to the vertical line-load, H is the distance from the bottom of the footing to the bottom of excavation or wall, z is the depth at which the horizontal pressure is desired, Q_L is the vertical line-load and $\sigma_H(z)$ is the horizontal pressure at depth z.

3.11 It is recommended that vertical point-loads, from construction equipment outriggers or adjacent building columns use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.28 \times \left(\frac{z}{H}\right)^2}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.77 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)^2}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

then

$$\sigma'_H(z) = \sigma_H(z) cos^2(1.1\theta)$$

where x is the distance from the face of the excavation/wall to the vertical point-load, H is distance from the outrigger/bottom of column footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, Q_p is the vertical point-load, $\sigma_H(z)$ is the horizontal pressure at depth z, θ is the angle between a line perpendicular to the excavation/wall and a line from the point-load to location on the excavation/wall where the surcharge is being evaluated, and $\sigma_H(z)$ is the horizontal pressure at depth z.

3.12 In addition to the recommended earth pressure, the upper 10 feet of the retaining wall adjacent to the street or driveway areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the wall due to normal street traffic. If the traffic is kept back at least 10 feet from the wall, the traffic surcharge may be neglected.

8.14 Retaining Wall Drainage

8.14.1 Retaining walls should be provided with a drainage system extended at least two-thirds the height of the wall. At the base of the drain system, a subdrain covered with a minimum of 12 inches of gravel should be installed, and a compacted fill blanket or other seal placed at the surface (see Figure 7). The clean bottom and subdrain pipe, behind a retaining wall, should be observed by the Geotechnical Engineer (a representative of Geocon), prior to placement of gravel or compacting backfill.

8.14.2 As an alternative, a plastic drainage composite such as Miradrain or equivalent may be installed in continuous, 4-foot-wide columns along the entire back face of the wall, at 8 feet on center. The top of these drainage composite columns should terminate approximately 18 inches below the ground surface, where either hardscape or a minimum of 18 inches of relatively cohesive material should be placed as a cap (see Figure 8). These vertical columns of drainage material would then be connected at the bottom of the wall to a collection panel or a 1-cubic-foot rock pocket drained by a 4-inch subdrain pipe.

8.14.3 Subdrainage pipes at the base of the retaining wall drainage system should outlet to an acceptable location via controlled drainage structures. Drainage should not be allowed to flow uncontrolled over descending slopes.

8.14.4 Moisture affecting below grade walls is one of the most common post-construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

8.15 Elevator Pit Design

8.15.1 The elevator pit slab and retaining wall should be designed by the project structural engineer. Elevator pits may be designed in accordance with the recommendations in the *Foundation Design and Retaining Wall Design* section of this report (see Sections 8.6 through 8.8, and 8.14).

8.15.2 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent foundations and should be designed for each condition as the project progresses.

8.15.3 If retaining wall drainage is to be provided, the drainage system should be designed in accordance with the *Retaining Wall Drainage* section of this report (see Section 8.15).

8.15.4 It is suggested that the exterior walls and slab be waterproofed to prevent excessive moisture inside of the elevator pit. Waterproofing design and installation is not the responsibility of the geotechnical engineer.

8.16 Elevator Piston

8.16.1 If a plunger-type elevator piston is installed for this project, a deep drilled excavation will be required. It is important to verify that the drilled excavation is not situated immediately adjacent to a foundation or pile, or the drilled excavation could compromise the existing foundation or pile support, especially if the drilling is performed subsequent to the foundation or pile construction.

8.16.2 Due to the preliminary nature of the project at this time, it is unknown if a plunger-type elevator piston will be included for this project. If in the future it is determined that a plunger-type elevator piston will be constructed, the location of the proposed elevator should be reviewed by the Geotechnical Engineer to evaluate the setback from foundations and shoring piles. Additional recommendations will be provided as necessary.

8.16.3 Casing may be required if caving is experienced in the drilled excavation. The contractor should be prepared to use casing and should have it readily available at the commencement of drilling activities. Continuous observation of the drilling and installation of the elevator piston by the Geotechnical Engineer (a representative of Geocon West, Inc.) is required.

8.16.4 The annular space between the piston casing and drilled excavation wall should be filled with a minimum of 1½-sack slurry pumped from the bottom up. As an alternative, pea gravel may be utilized. The use of soil to backfill the annular space is not acceptable.

8.17 Temporary Excavations

8.17.1 Excavations on the order of 19 feet in height may be required during grading operations to excavate and remove all the artificial fill. The excavations are expected to expose artificial fill, older alluvium, and bedrock which are suitable for vertical excavations up to 5 feet in height where loose soils or caving sands are not present, and where not surcharged by adjacent traffic or structures.

8.17.2 Vertical excavations greater than 5 feet or where surcharged by existing structures or traffic loads will require sloping or shoring measures to provide a stable excavation. Where sufficient space is available, temporary unsurcharged embankments could be sloped back at a uniform 1:1 slope gradient or flatter up to a maximum height of 10 feet. A uniform slope does not have a vertical portion.

8.17.3 If excavations in close proximity to an adjacent property line and/or structure are required, special excavation measures such as slot-cutting or shoring may be necessary in order to maintain lateral support of offsite improvements. Recommendations for special temporary excavation measures can be provided under separate cover once the proposed building layout is established.

8.17.4 Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Geocon personnel should inspect the soils exposed in the cut slopes during excavation so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

8.18 Surface Drainage

8.18.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.

8.18.2 All site drainage should be collected and controlled in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2016 CBC 1804.4 or other applicable standards. In addition, drainage should not be allowed to flow uncontrolled over

any descending slope. Discharge from downspouts, roof drains and scuppers are not recommended onto unprotected soils within five feet of the building perimeter. Planters which are located adjacent to foundations should be sealed to prevent moisture intrusion into the soils providing foundation support. Landscape irrigation is not recommended within 5 feet of the building perimeter footings except when enclosed in protected planters.

8.18.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

8.18.4 Landscaping planters immediately adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Either a subdrain, which collects excess irrigation water and transmits it to drainage structures, or an impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, it is recommended that consideration be given to providing a cutoff wall along the edge of the pavement that extends at least 12 inches below the base material.

8.19 Plan Review

8.19.1 Grading, shoring, and foundation plans should be reviewed by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.

2. This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

4. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

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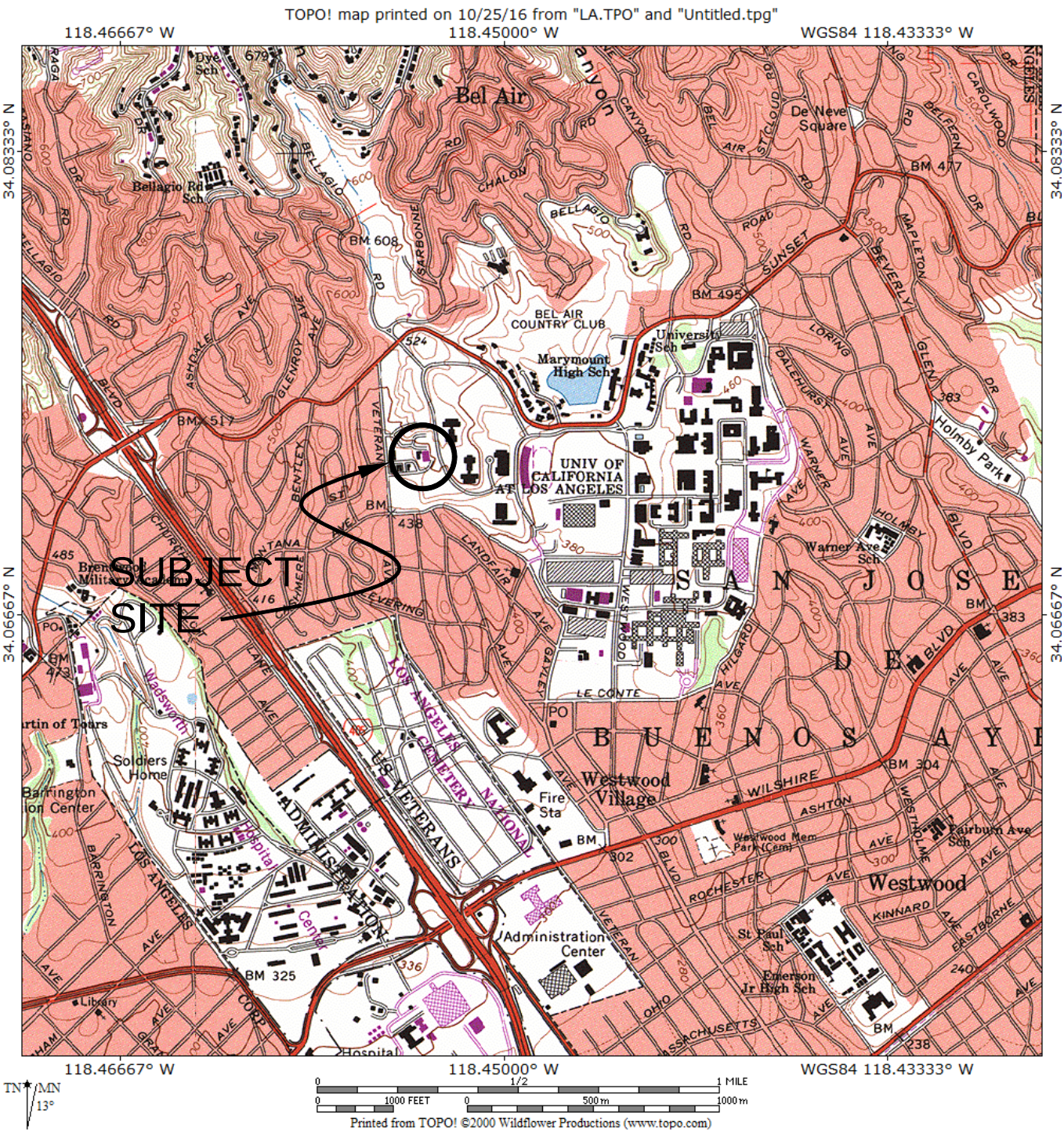

REFERENCE:U.S.G.S. TOPOGRAPHIC MAPS, 7.5 MINUTE SERIES, BEVERLY HILLS, CA QUADRANGLE

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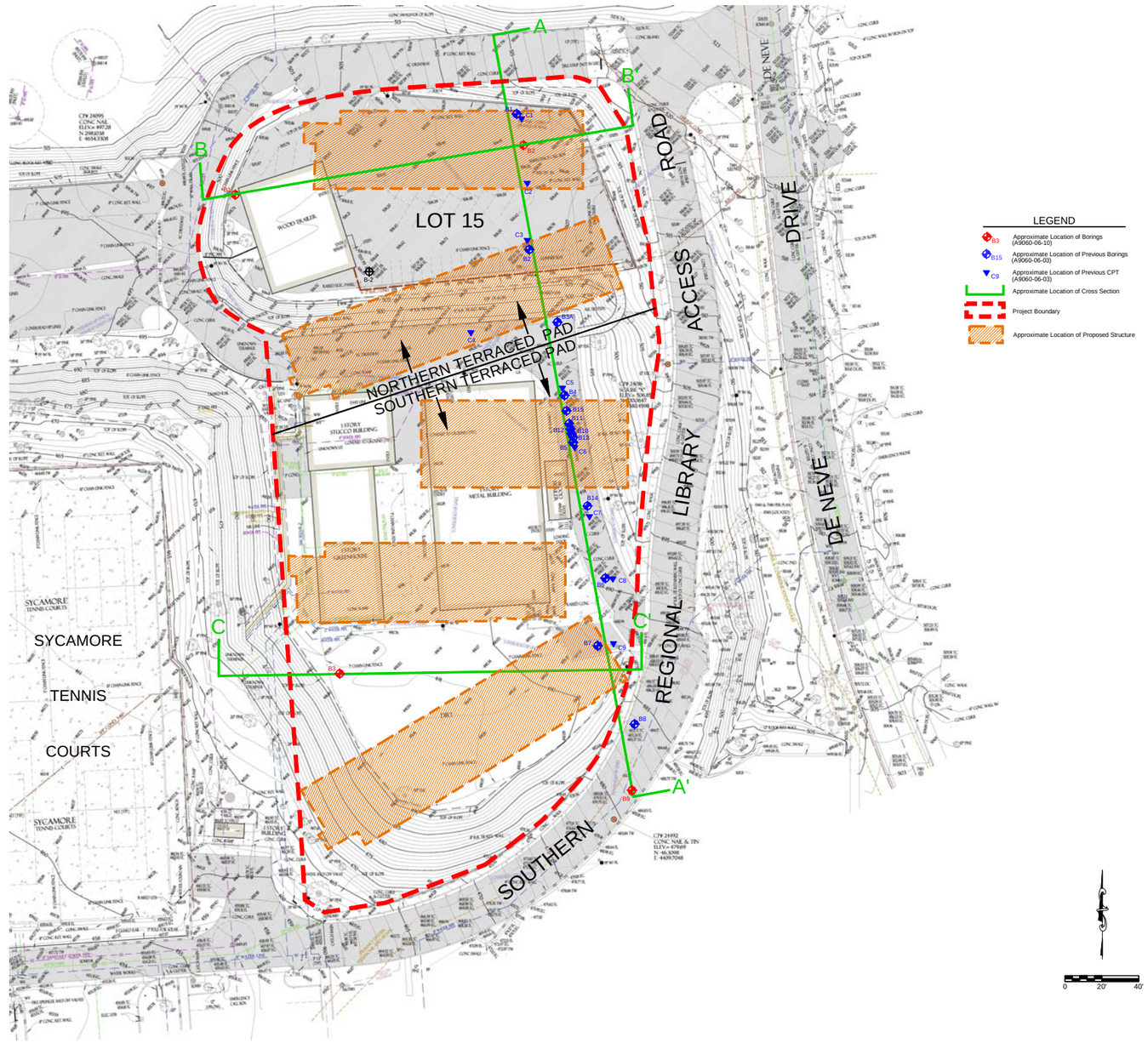
DRAFTED BY: RA	CHECKED BY: SFK

VICINITY MAP

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

JAN 2017	PROJECT NO. A9060-06-10	FIG. 1



LEGEND

- B3 — Approximate Location of Borings (A9060-06-10)
- B15 — Approximate Location of Previous Borings (A9060-06-03)
- C9 — Approximate Location of Previous CPT (A9060-06-03)
- Approximate Location of Cross Section
- Project Boundary
- Approximate Location of Proposed Structure

0 20' 40'

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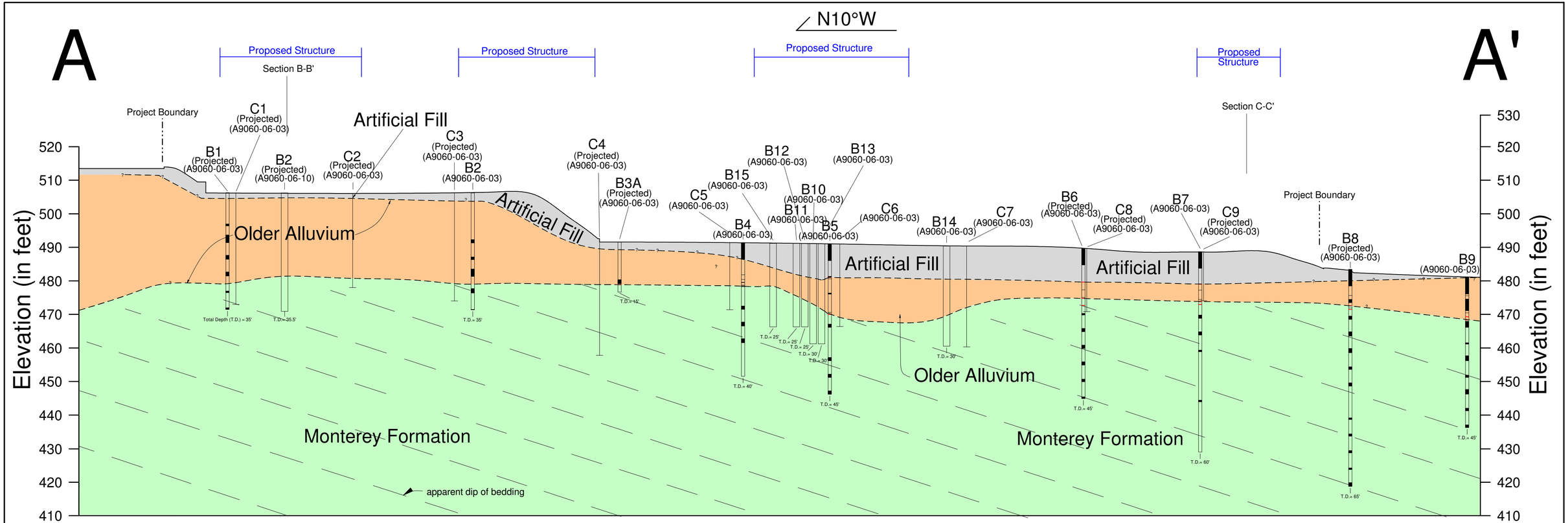
SITE PLAN

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

DRAFTED BY: RMA	CHECKED BY: SFK	JAN 2017	PROJECT NO. A9060-06-10	FIG. 2



Scale: 1" = 20' (H&V)

0 20' 40'

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GEOLOGIC SECTION A-A'

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

JAN 2017 | PROJECT NO. A9060-06-10 | FIG. 2A

N80°E

B

Proposed Structure

B'

Section A-A'

Project Boundary

Artificial Fill

Project Boundary

B1
(A9060-06-10)

B2
(A9060-06-10)

Older Alluvium

Monterey Formation

T.D.= 35.5'

T.D.= 35.5'

apparent dip of bedding

Elevation (in feet)

530
520
510
500
490
480
470
460
450
440
430
420
410

Scale: 1" = 20' (H&V)

0 20' 40'

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GEOLOGIC SECTION B-B'

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

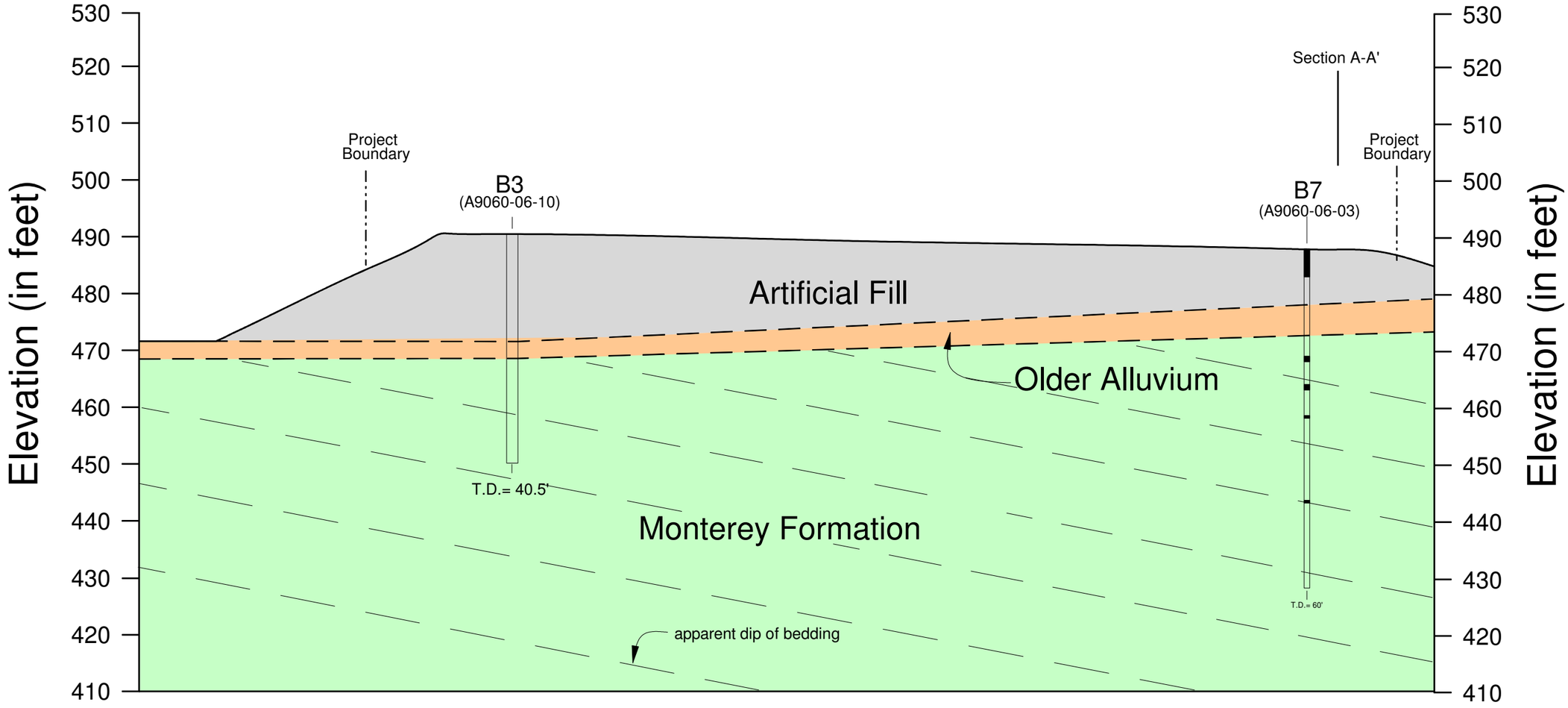
JAN 2017 | PROJECT NO. A9060-06-10 | FIG. 2B

N89°E

C

C'

Proposed Structure



Scale: 1" = 20' (H&V)

0 20' 40'

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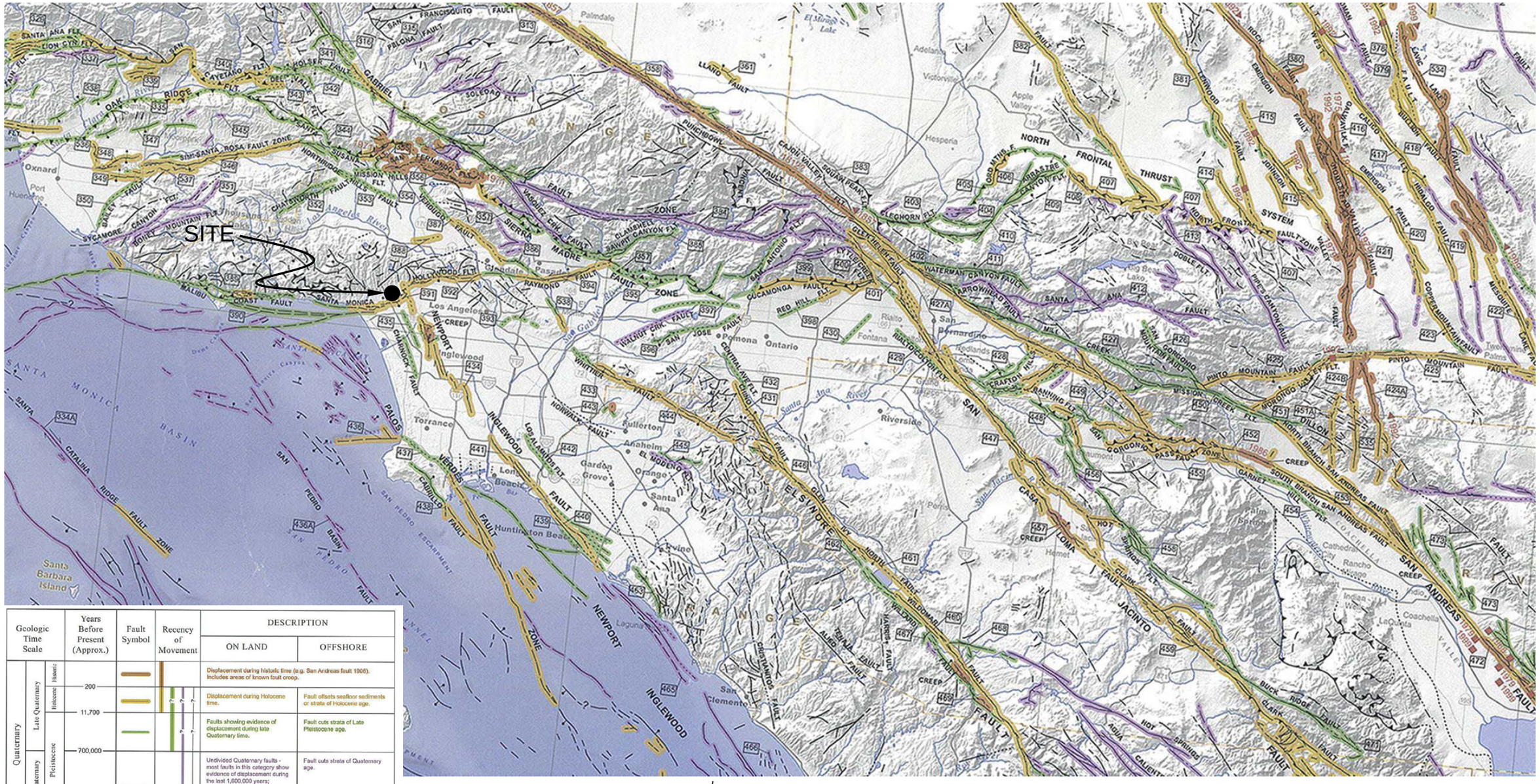
GEOLOGIC SECTION C-C'

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

JAN 2017 | PROJECT NO. A9060-06-10 | FIG. 2C

Reference: Jennings, C.W. and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey Geologic Data Map No. 6.



Geologic Time Scale			Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION	
						ON LAND	OFFSHORE
Quaternary	Late Quaternary	Historic	200			Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
		Holocene	11,700		? ? ?	Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
		Pleistocene			? ?	Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
	Early Quaternary		700,000		?	Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary			1,600,000*			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.
			4.5 billion (Age of Earth)				

* Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.6 Ma criterion.

0 12 24 Miles

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REGIONAL FAULT MAP

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

JAN 2017 | PROJECT NO. A9060-06-10 | FIG. 3

SANTA BARBARA
VENTURA
LOS ANGELES
ORANGE
RIVERSIDE
IMPERIAL
SAN DIEGO
SITE
120°
33°
119°

EPICENTER MAP LEGEND

Period	1800 - 1868	1869 - 1931	1932 - 1999
≥ 7.0			
6.5 - 6.9			
6.0 - 6.4			
5.5 - 5.9			
5.0 - 5.4			

Magnitude (M)

Historical Faulting
Holocene Faulting
Highways (Major)
Highways (Minor)
Lakes

65 Last two digits of M ≥ 6.5 earthquake year

Reference: Toppozada, T., Branum, D., Petersen, M., Hallstrom, C., Cramer, C., and Reichle, M., 2000, Epicenters and Areas Damaged by M≥5 California Earthquakes, 1800 - 1999, California Geological Survey, Map Sheet 49.

N

0 20 40 Miles

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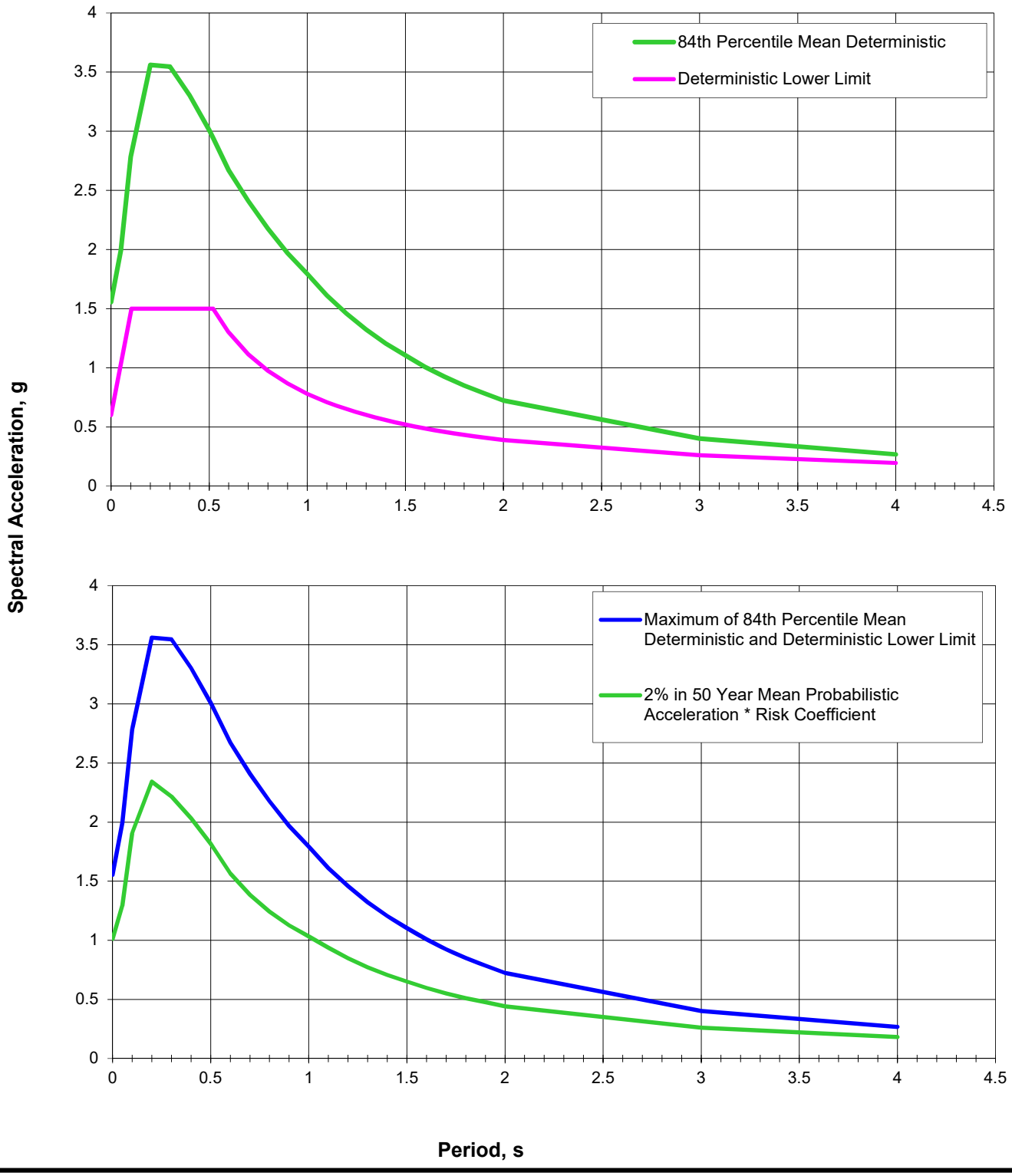
REGIONAL SEISMICITY MAP

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

JAN 2017 | PROJECT NO. A9060-06-10 | FIG. 4



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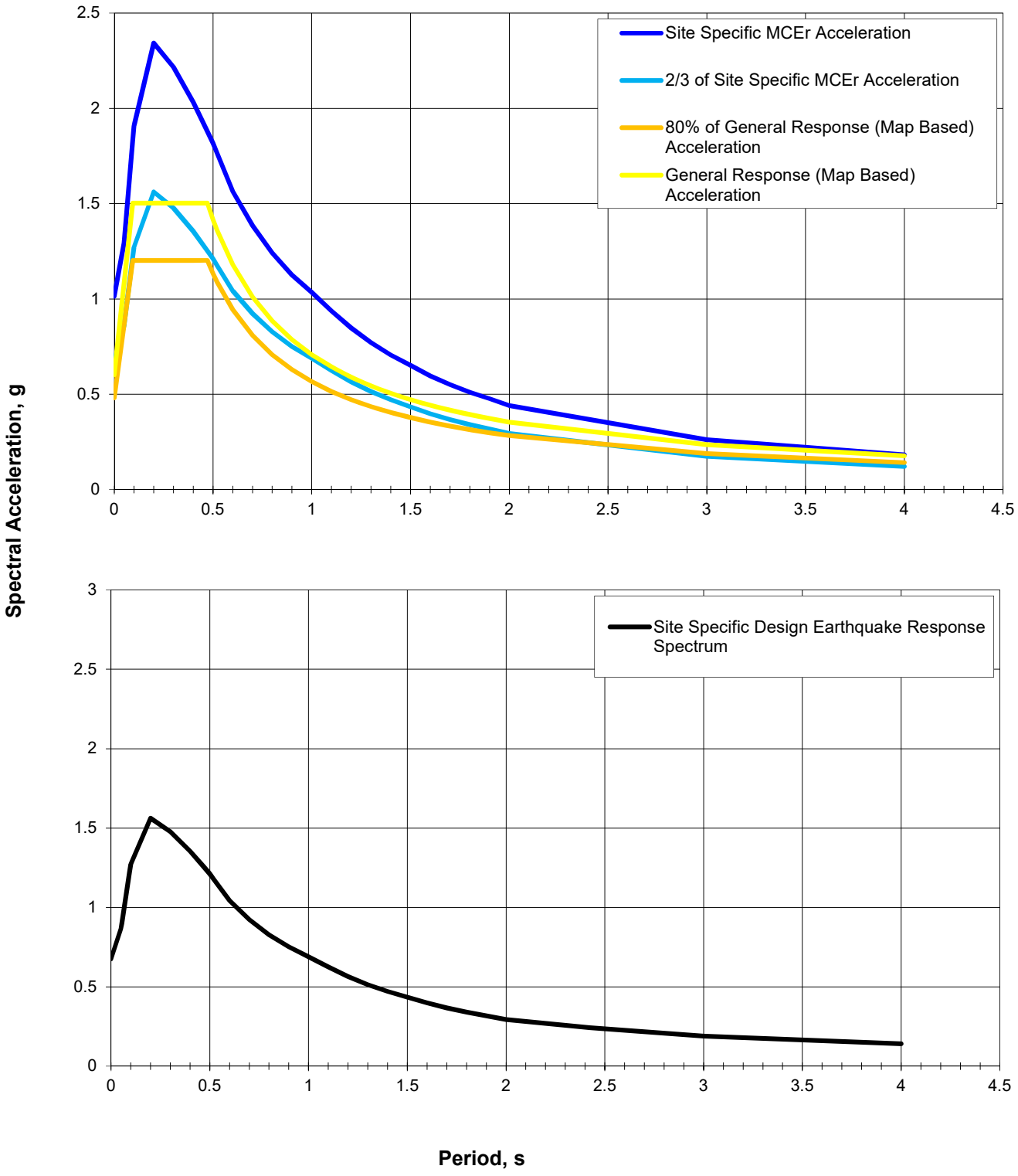
DESIGN RESPONSE SPECTRUM

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

DEC 2016	PROJECT NO. A9060-06-10	FIG. 5



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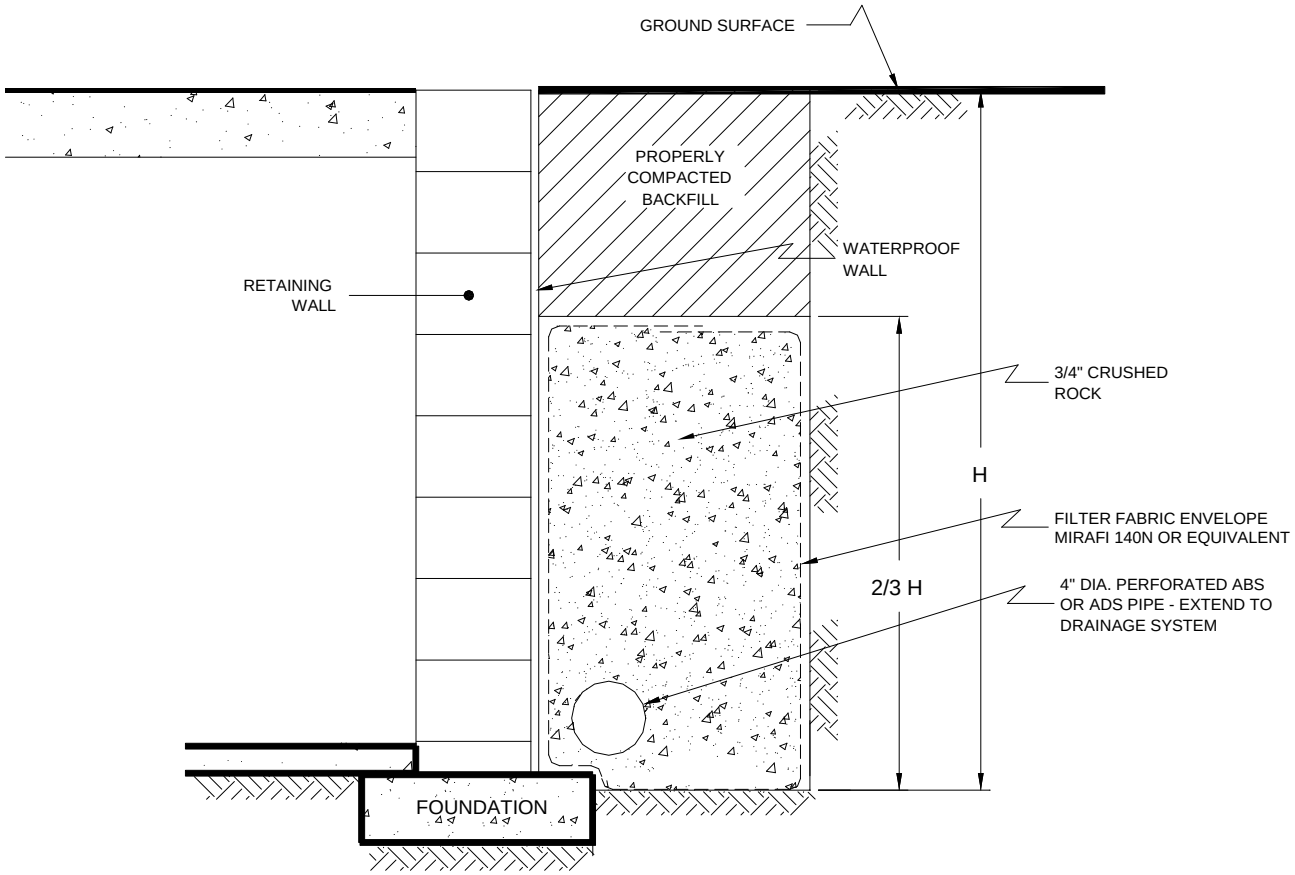
DESIGN RESPONSE SPECTRUM

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

DEC 2016	PROJECT NO. A9060-06-10	FIG. 6



NO SCALE

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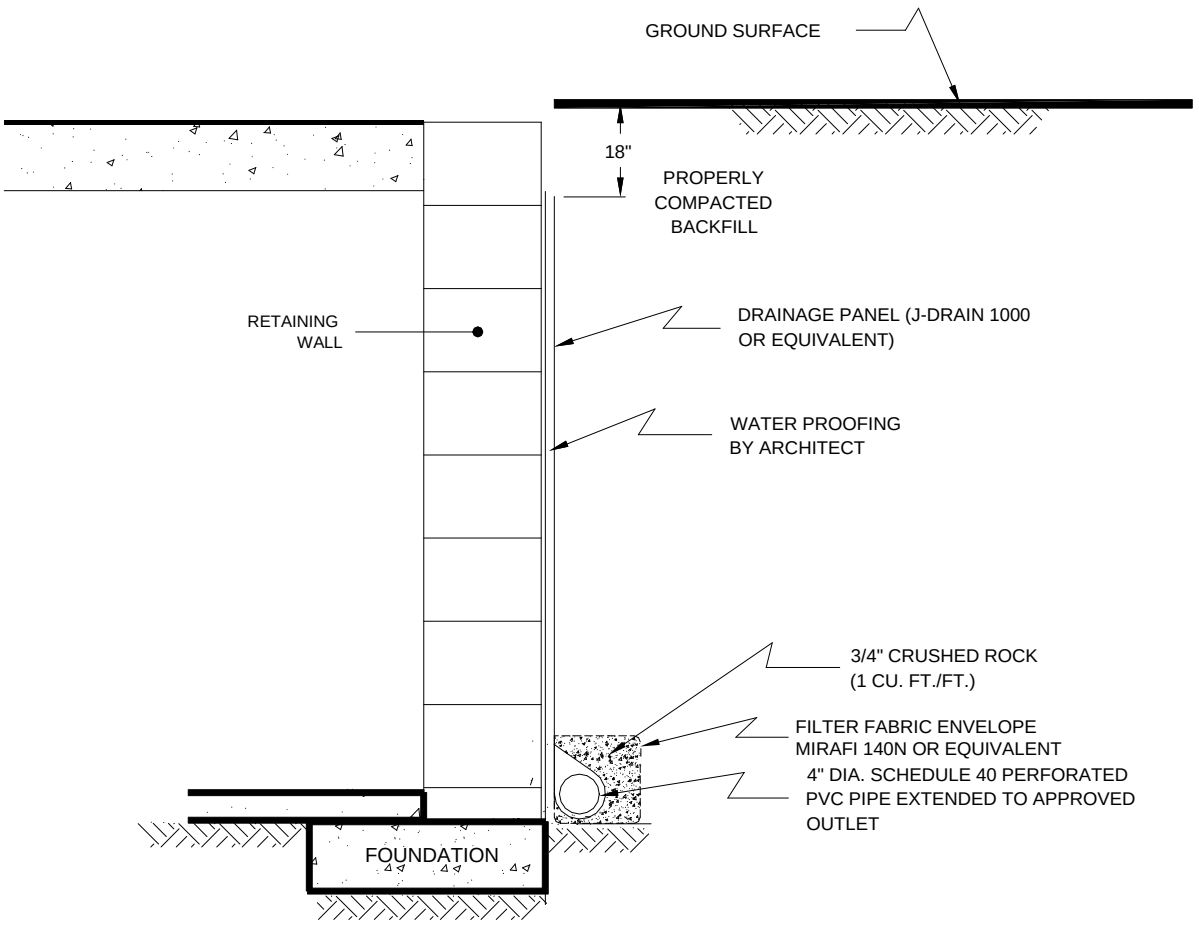
PHONE (818) 841-8388 - FAX (818) 841-1704

DRAFTED BY: TL	CHECKED BY: HHD

RETAINING WALL DRAIN DET

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

JAN 2017	PROJECT NO. A9060-06-10	FIG. 7



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Ground Motion Spectral Accelerations, (g)

Spectral Period (seconds)	Site Specific Design Response Spectrum (5% Damping)
PGA	0.676
0.055	0.900
0.094	1.222
0.100	1.271
0.104	1.283
0.200	1.562
0.300	1.478
0.400	1.355
0.471	1.253
0.500	1.211
0.520	1.177
0.600	1.043
0.700	0.923
0.800	0.828
0.900	0.751
1.000	0.690
1.100	0.625
1.200	0.565
1.300	0.514
1.400	0.471
1.500	0.434
1.600	0.398
1.700	0.367
1.800	0.340
1.900	0.318
2.000	0.294
2.425	0.243
3.000	0.189
4.000	0.142

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DESIGN RESPONSE SPECTRUM

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

APPENDIX A

APPENDIX A

FIELD INVESTIGATION

The site was explored on November 14 and 15, 2016, by excavating three large-diameter borings using a truck-mounted bucket-auger drilling machine. The borings were advanced to depths ranging from 35½ to 40½ feet below the ground surface. The borings were downhole logged. Representative and relatively undisturbed samples were obtained by driving a Kelly bar. Kelly bar weights are indicated on the boring logs. The California Modified Sampler was equipped with 1-inch high by 2 3/8-inch diameter brass sampler rings to facilitate soil removal and testing. Bulk samples were also obtained.

The soil conditions encountered in the borings were visually examined, classified, and logged in general accordance with the Unified Soil Classification System (USCS). Logs of the borings are presented as Figures A1 through A3. The approximate locations of the borings are shown on the Site Plan, Figure 2.

PROJECT NO. A9060-06-10

BORING 1

ELEV. (MSL.) **512'** DATE COMPLETED **11/14/16**

EQUIPMENT **BUCKET AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	BULK 0-5'				**AC: 3" BASE: 5"** **ARTIFICIAL FILL** Sand, poorly graded, medium dense, dry, yellowish brown, medium- to coarse-grained.			
2	B1@2'			SM	Silty Sand, medium dense, slightly moist, dark yellowish brown, abundant fine gravel, some rootlets.	6	112.0	6.9
4				SW	**OLDER ALLUVIUM**			
				SM	Silty Sand with Gravel, dense, slightly moist, reddish brown, fine- to medium-grained, trace coarse-grained, predominantly slate gravel (to 1").			
	B1@5'					10	115.8	18.8
6				ML	- trace clay			
	B1@7'			SP-SM	Sand with Gravel, well-graded, dense, slightly moist, reddish brown, gravel (to 1").	10 (8")	120.3	5.9
8				SM	Silty Sand, dense, slightly moist, reddish brown, fine- to medium-grained, some coarse-grained, abundant fine subangular slate gravel (to 1"), some siltstone gravel.			
10	B1@10'			SW	Clayey Silt, hard, slightly moist, reddish brown, some fine-grained sand.	10 (8")	118.6	10.2
				SP-SM	Sand with Silt, poorly graded, dense, slightly moist, reddish brown, fine- to medium-grained, some coarse-grained, abundant fine gravel (to 2"), some oxidation mottling.			
12				SW				
				SM	Silty Sand, dense, slightly moist, reddish brown, fine- to medium-grained, some coarse-grained, abundant fine gravel (to 1").			
14					Sand with Gravel, well-graded, dense, slightly moist, reddish brown, predominantly slate gravel (to 1").			
	B1@15'					9	123.9	11.0
16					Sand with Silt, poorly graded, dense, slightly moist, reddish brown, fine-grained.			
					Sand with Gravel, well-graded, dense, slightly moist, reddish brown, predominantly slate gravel (to 1").			
18				SP	Silty Sand, dense, slightly moist, reddish brown, fine- to medium-grained, some coarse-grained, trace fine gravel. - increase in gravel content			
20	B1@20'					10	154.4	9.0
					Sand, poorly graded, dense, slightly moist, reddish brown, fine- to medium-grained, trace fine gravel (to .5"), trace silt. - interbedded sand and gravel beds (to 1") - some cobbles (to 6") - 21.0' to 24.0' zone of reworked sediments and bedrock, some subrounded cobbles			
22								
24					**MONTEREY FORMATION**			
	B1@25'				Sandstone, light yellowish brown, fine-grained, massive to moderately bedded, soft (H2), highly weathered, moderate oxidation, weakly cemented. - Bedding: N50E°, 16SE°	30 (6")	80.1	4.7
26					some siltstone interbeds, laminated, yellowish brown, fine-grained, soft, moderately weathered			
28					- some oxidation mottling			

A9060-06-10 BORING LOGS.GPJ

Figure A1,
Log of Boring 1, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. A9060-06-10

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING 1** ELEV. (MSL.) **512'** DATE COMPLETED **11/14/16** EQUIPMENT **BUCKET AUGER** BY: **RMA**	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
30	B1@30'				- siltstone interbeds, fine-grained, yellowish brown, moderately weathered, slightly fractured, soft (H2), highly oxidized, weakly cemented, highly weathered	30 (9")	105.8	7.5
32								
34					- moderately weathered			
	B1@35'				- thin fractures in-filled with silt	30 (6")	108.7	7.3
					Total depth of boring: 35.5 feet Fill to 1.5 feet. No groundwater encountered. Downhole logged by RMA & MDS. Backfilled with soil cuttings and tamped. *Penetration resistance for 2,400-pound Kelly bar falling 12 inches from 0-24 feet. Penetration resistance for 1,550-pound Kelly bar falling 12 inches from 25-44 feet. Penetration resistance for 850-pound Kelly bar falling 12 inches from 45-51 feet.			

A9060-06-10 BORING LOGS.GPJ

Figure A1,
Log of Boring 1, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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GEOCON

PROJECT NO. A9060-06-10

BORING 2

ELEV. (MSL.) **513'** DATE COMPLETED **11/14/16**

EQUIPMENT **BUCKET AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**AC: 3" BASE: 8"**			
					ARTIFICIAL FILL			
2	B2@2'			SM	Silty Sand, medium dense, slightly moist, reddish brown, fine- to medium-grained, some coarse-grained, some fine gravel (to 0.5").	4	112.2	16.5
					OLDER ALLUVIUM			
4				ML	Silty Sand with Gravel, medium dense to dense, slightly moist, reddish brown, predominantly slate gravel (to 2"), trace clay.			
	B2@5'				Sandy Silt, hard, slightly moist, reddish brown, fine- to medium-grained, trace gravel (to 0.5").	3	111.2	20.5
6				ML	- gravel scour (2")			
	B2@7'				Silt, hard, slightly moist, reddish brown, some fine-grained sand, trace subangular slate gravel (to 0.5").	4	106.6	17.2
8					- decrease in gravel content			
					Sandy Silt, hard, slightly moist, reddish brown, trace clay.			
10	B2@10'			ML	- trace clay	4	110.7	16.6
12								
					Silt, hard, slightly moist, reddish brown, some fine-grained sand, fine gravel (to 1"), trace clay.			
14				ML				
	B2@15'				Silt with Sand to Silty Sand, hard, slightly moist, reddish brown, fine-grained, some fine gravel (to 1"), trace clay.	4	115.3	13.9
16				ML/SM	- trace gravel (to 2.5")			
18					Silty Sand with Gravel, dense, slightly moist, reddish brown, fine- to medium-grained, some coarse-grained, gravel (to 1").			
					- gravel (to 2"), trace oxidation mottling			
20	B2@20'				- slate gravel (to 3")	6	123.3	9.1
22				SM				
24					- some coarse-grained sand, gravel (to 3")			
					- increase in sand content			
	B2@25'				**MONTEREY FORMATION**	17	111.1	9.6
26					Sandstone, yellowish brown, fine-grained, poorly sorted, massive to moderately bedded, soft (H2), highly to completely weathered, weakly cemented, highly oxidized.			
28					26.0' - Bedding: N26°E, 30°SE			
					Clayey Siltstone, soft (H2), highly weathered, thinly bedded, moderately			

A9060-06-10 BORING LOGS.GPJ

Figure A2,
Log of Boring 2, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. A9060-06-10

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING 2** ELEV. (MSL.) **513'** DATE COMPLETED **11/14/16** EQUIPMENT **BUCKET AUGER** BY: **RMA**	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
30	B2@30'				oxidized, moderately fractured.	30	98.0	22.6
					- some thin fractures with clay infills			
32								
34					- moderately to highly weathered			
	B2@35'					30 (7")	114.9	11.0
					Total depth of boring: 35.5 feet Fill to 1.5 feet. No groundwater encountered. Downhole logged by RMA & MDS. Backfilled with soil cuttings and tamped. *Penetration resistance for 2,400-pound Kelly bar falling 12 inches from 0-24 feet. Penetration resistance for 1,550-pound Kelly bar falling 12 inches from 25-44 feet. Penetration resistance for 850-pound Kelly bar falling 12 inches from 45-51 feet.			

A9060-06-10 BORING LOGS.GPJ

Figure A2,
Log of Boring 2, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-10

BORING 3

ELEV. (MSL.) **497'** DATE COMPLETED **11/15/16**

EQUIPMENT **BUCKET AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	BULK 0-5'				**ARTIFICIAL FILL** Silty Sand, dense, dry, reddish brown, fine- to medium-grained, abundant gravel (to 2"), some asphalt debris.			
2	B3@2'				Silty Sand with Gravel, medium dense, slightly moist, brown to reddish brown, fine- to medium-grained, some gravel (to 2").	11	114.2	7.2
4					- brown, trace coarse-grained, trace clay			
6	B3@5'				- trace gravel (to 2"), reddish brown	7	120.0	16.0
8	B3@7'				- brown with orange mottles, increase in silt content, gravel (to 3")	8	100.4	10.2
10	B3@10'				- trace clay	9	120.8	9.0
12					Sandy Silt, hard, slightly moist, grayish brown, trace oxidation staining. - slate gravel (to 3")			
14								
16	B3@15'				Sandy Silt, hard, slightly moist, reddish brown, fine-grained, trace fine gravel.	12	130.3	9.6
18					- increase in sand content			
20	B3@20'			SM	**OLDER ALLUVIUM** Silty Sand, dense, slightly moist, reddish brown, fine-grained, trace medium-grained, trace fine gravel.	12	124.6	7.0
22					**MONTEREY FORMATION** Sandstone, yellowish brown, fine-grained, massive, soft (H2), highly to completely weathered, moderately fractured, weakly cemented, scoured upper contact, friable.			
24								
26	B3@25'				- highly weathered	30 (5")	104.0	4.1
28								
					Sandy Siltstone, light yellowish brown, fine-grained, soft (H2), thinly bedded,			

A9060-06-10 BORING LOGS.GPJ

Figure A3,
Log of Boring 3, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-10

BORING 3

ELEV. (MSL.) **497'** DATE COMPLETED **11/15/16**

EQUIPMENT **BUCKET AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B3@30'				moderately weathered, slightly fractured. -29.5' Bedding: N33°E, 34°SE	30 (5")	105.3	3.9
32					- some thin fractures with clay infill			
34					Clayey Siltstone, light brown, soft (H2), thinly bedded, moderately weathered, slightly fractured, well indurated.			
	B3@35'				34.0' - Bedding: N26°E, 30°SE	13	114.0	10.0
36					Sandstone, yellowish brown, fine-grained, moderately bedded, soft (H2), moderately weathered.			
38					Sandy Siltstone, light yellowish brown, fine-grained, thinly bedded, soft (H20, moderately weathered, slightly fractured.			
40	B3@40'				- well-indurated, well-cemented, moderately to slightly weathered, interbedded with clayey siltstone	30	120.9	4.1
					Total depth of boring: 40.5 feet Fill to 19 feet. No groundwater encountered. Downhole logged by RMA & MDS. Backfilled with soil cuttings and tamped.			
					*Penetration resistance for 2,400-pound Kelly bar falling 12 inches from 0-24 feet. Penetration resistance for 1,550-pound Kelly bar falling 12 inches from 25-44 feet. Penetration resistance for 850-pound Kelly bar falling 12 inches from 45-51 feet.			

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Figure A3,
Log of Boring 3, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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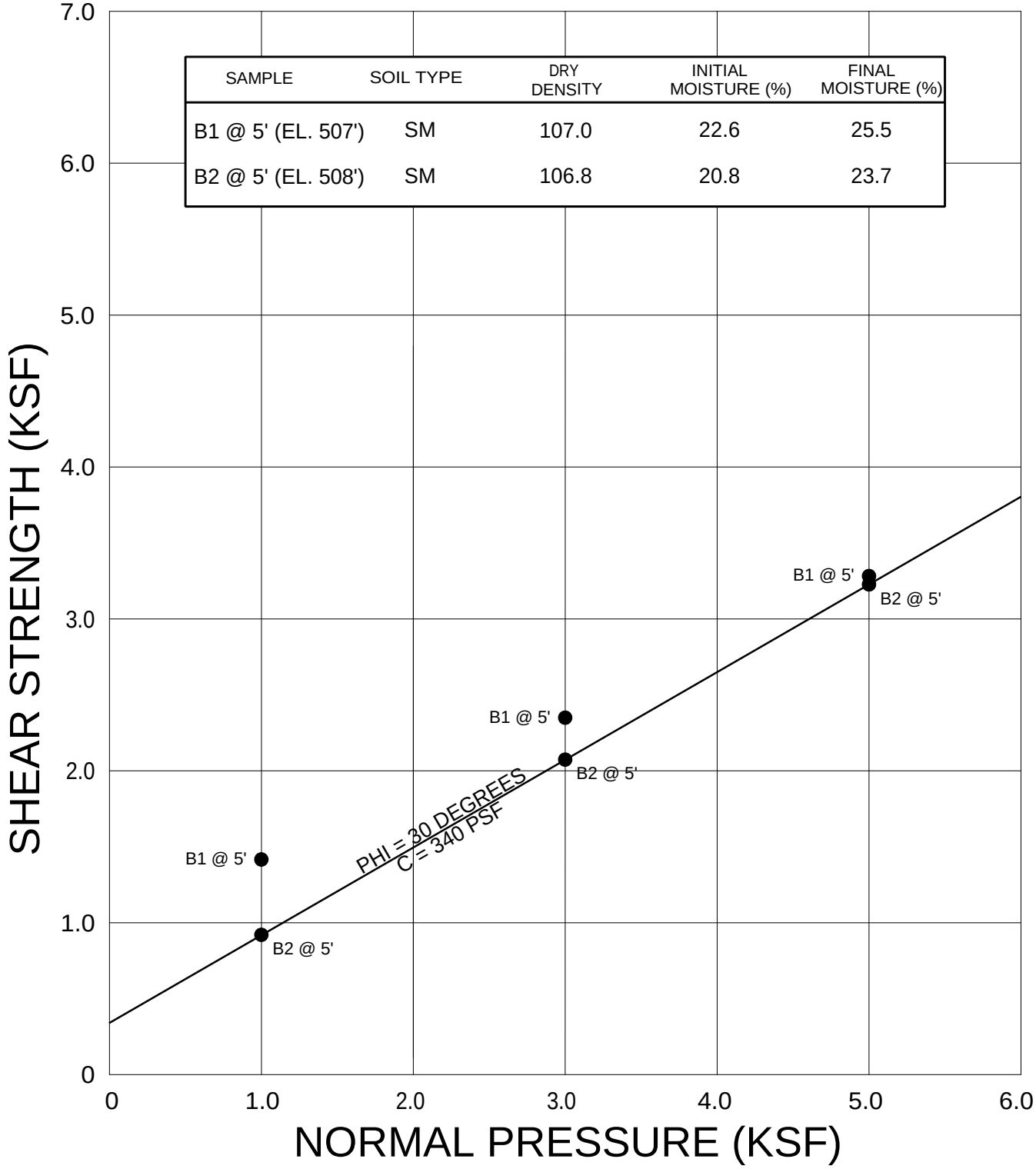
APPENDIX B

APPENDIX B

LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the "American Society for Testing and Materials (ASTM)", or other suggested procedures. Selected samples were tested for direct shear strength, consolidation, expansion characteristics, corrosivity, and in-place dry density and moisture content. The results of the laboratory tests are summarized in Figures C1 through C7. The in-place dry density and moisture content of the samples tested are presented in the boring logs, Appendix A.

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B1 @ 5' (EL. 507')	SM	107.0	22.6	25.5
B2 @ 5' (EL. 508')	SM	106.8	20.8	23.7



● DIRECT SHEAR, SATURATED

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DIRECT SHEAR TEST RESULTS

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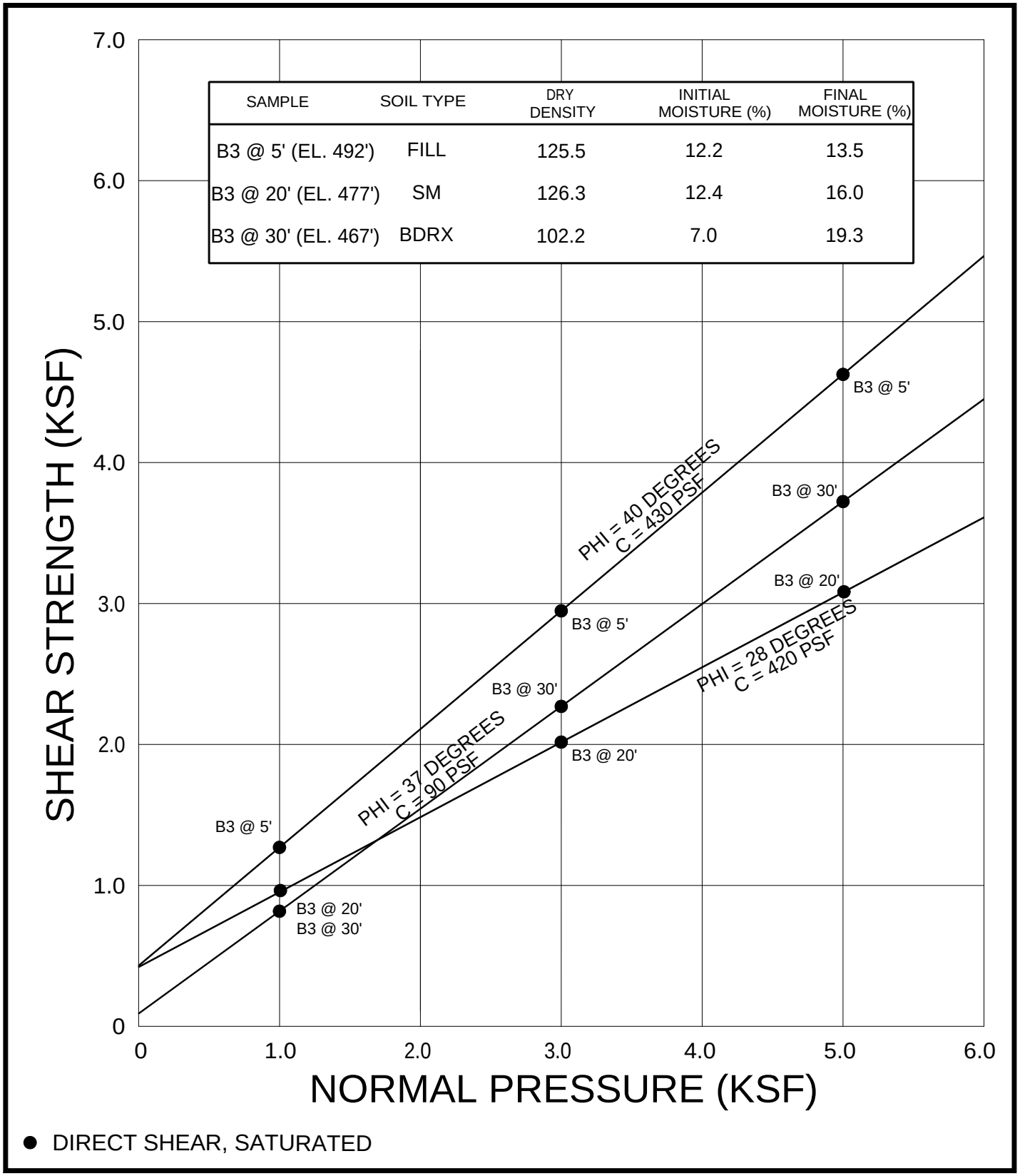
LOS ANGELES, CALIFORNIA

JAN 2017 | PROJECT NO. A9060-06-10 | FIG. B1



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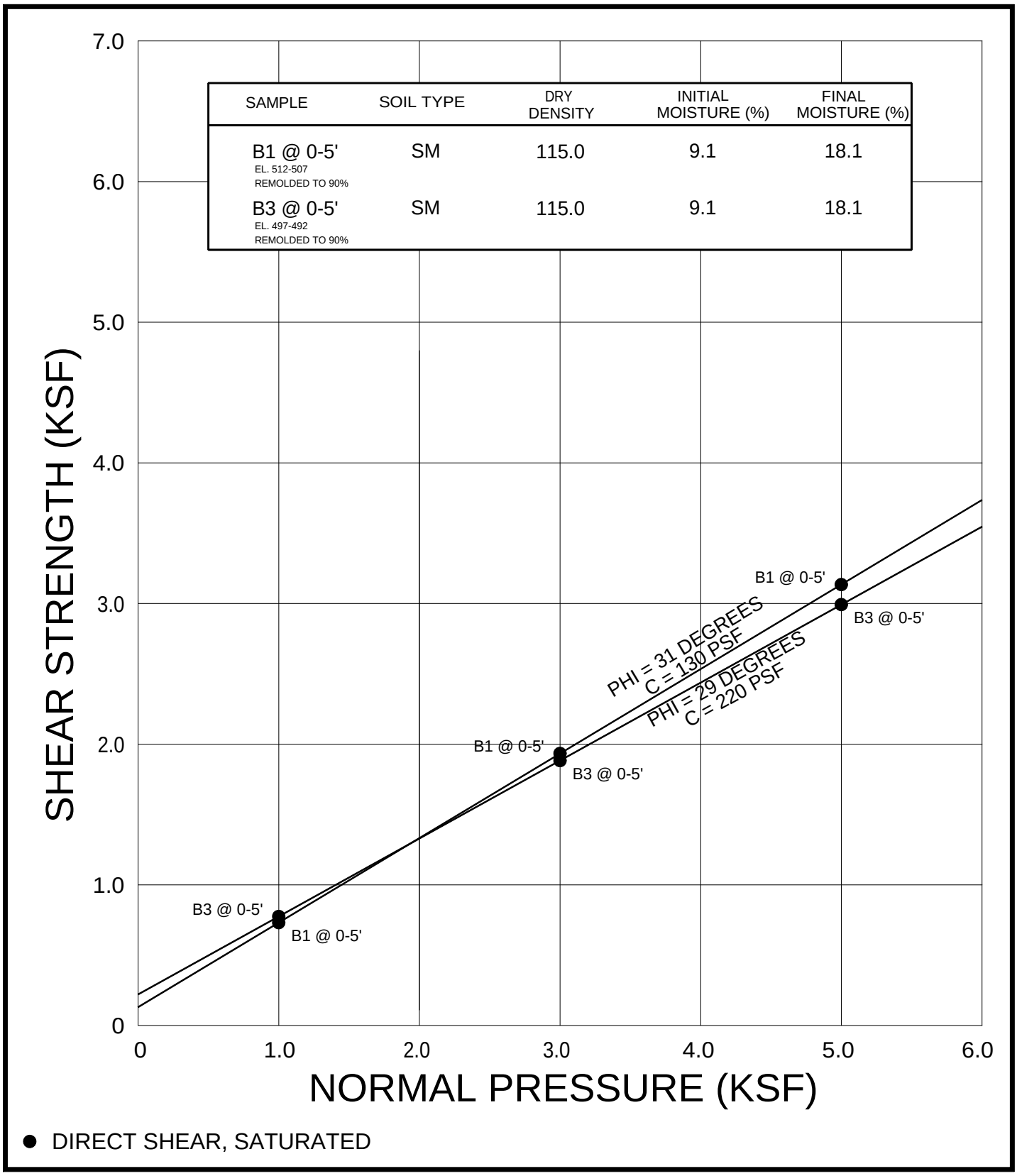
DIRECT SHEAR TEST RESULTS

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

JAN 2017 | PROJECT NO. A9060-06-10 | FIG. B2



● DIRECT SHEAR, SATURATED

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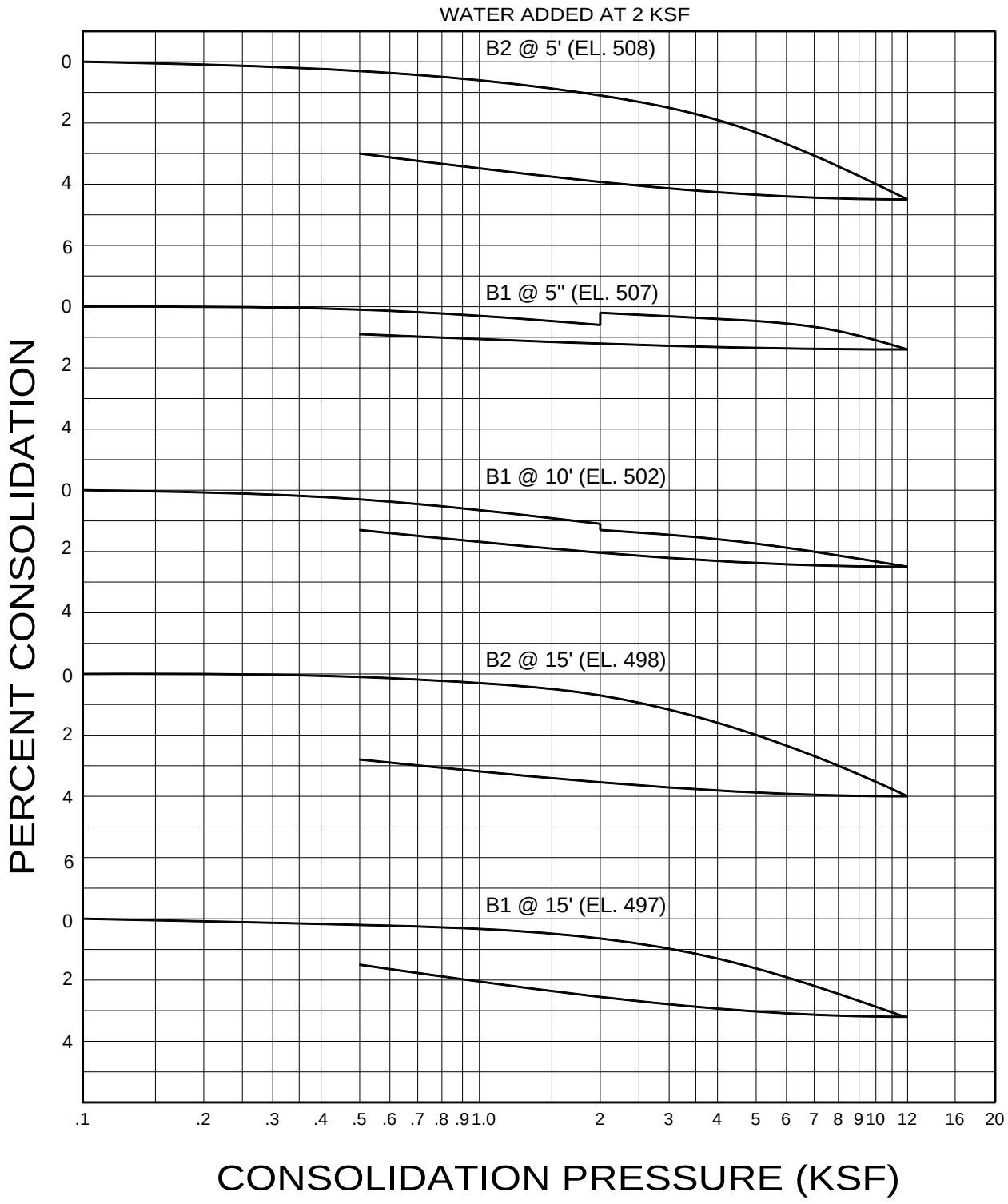
DIRECT SHEAR TEST RESULTS

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

JAN 2017	PROJECT NO. A9060-06-10	FIG. B2



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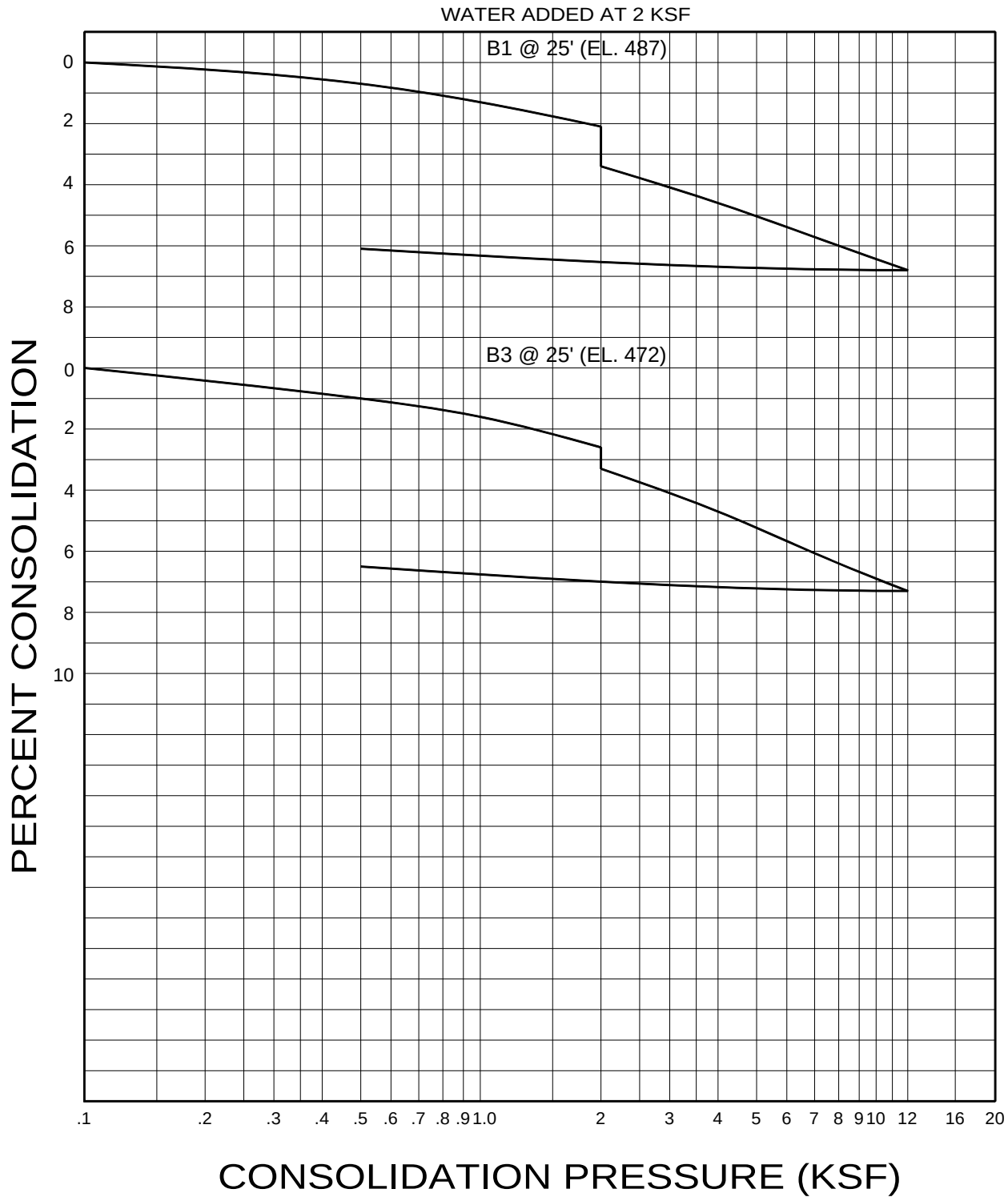
CONSOLIDATION TEST RESULTS

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

DRAFTED BY: TL	CHECKED BY: HHD

DECEMBER 2016	PROJECT NO. A9060-06-10	FIG. B4



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CONSOLIDATION TEST RESULTS

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

JAN 2017	PROJECT NO. A9060-06-10	FIG. B5

SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-11

Sample No.	Moisture Content (%)		Dry Density (pcf)	Expansion Index	*UBC Classification	**CBC Classification
	Before	After				
B1 @ 0-5' EL. 512-507	8.2	19.9	117.8	44	Low	Expansive
B3 @ 0-5' EL. 497-492	8.7	19.4	115.6	44	Low	Expansive

* Reference: 1997 Uniform Building Code, Table 18-I-B.

** Reference: 2013 California Building Code, Section 1803.5.3

SUMMARY OF LABORATORY MAXIMUM DENSITY AND AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-12

Sample No.	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture (%)
B1 @ 0-5' EL. 512-507	Reddish Brown Silty Sand	128.0	9.0
B3 @ 0-5' EL. 497-492	Brown Silty Sand	128.5	9.0

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PHONE (818) 841-8388 - FAX (818) 841-1704

DRAFTED BY: TL | CHECKED BY: HHD

LABORATORY TEST RESULTS

UCLA CAMPUS HOUSING - UNEX
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

JAN 2017 | PROJECT NO. A9060-06-09 | FIG. B6

SUMMARY OF LABORATORY POTENTIAL OF HYDROGEN (pH) AND RESISTIVITY TEST RESULTS CALIFORNIA TEST NO. 643

Sample No.	pH	Resistivity (Ohm Centimeters)
B1 @ 0-5' EL. 512-507	7.9	520 (Severely Corrosive)
B3 @ 0-5' EL. 497-492	7.8	1100 (Corrosive)

SUMMARY OF LABORATORY CHLORIDE CONTENT TEST RESULTS EPA NO. 325.3

Sample No.	Chloride Ion Content (%)
B1 @ 0-5' EL. 512-507	0.069
B3 @ 0-5' EL. 497-492	0.015

SUMMARY OF LABORATORY WATER SOLUBLE SULFATE TEST RESULTS CALIFORNIA TEST NO. 417

Sample No.	Water Soluble Sulfate (% SO_4)	Sulfate Exposure*
B1 @ 0-5' EL. 512-507	0.018	Negligible
B3 @ 0-5' EL. 497-492	0.023	Negligible

* Reference: 2013 California Building Code, Section 1904.3 and ACI 318-11 Section 4.3.

GEOCON WEST, INC.

ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

DRAFTED BY: TL | CHECKED BY: HHD

CORROSIVITY TEST RESULTS

UCLA CAMPUS HOUSING - LOT 15
LOS ANGELES, CALIFORNIA

JAN 2017 | PROJECT NO. A9060-06-10 | FIG. B7

APPENDIX C

APPENDIX C

LOGS OF PREVIOUS BORINGS AND CONE PENETRATION TESTS

BORING B1

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: May 5, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 506.8
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
1	1	100		0		**Artificial Fill (af)**
						Silty Sand to Sandy Silt, brown, fine-gained, minor to abundant gravel (to 1"), minor clay, slightly moist.
				1		
				2		**Older Alluvium (Qoal)**
					ML	1.8' - Clayey Silt, brown (7.5YR-10YR 5/3), trace gravel (1/8 - 1/4"), slightly moist.
				3		
				4		
				5		
1	2	88				
				6		
				7		
				8		
				9		
				10		9.4 to 10.0' - No Recovery
2	3	54				
				11		
				12		
				13		12.7 to 15.0' - No Recovery
				14		14.2' - increase in gravel content
				15		
2	4	76				
				16		
				17		16.8' - Silty Sand, brown (7.5YR-10YR 5/3), fine-grained, trace to minor gravel (to 1/2"),
					SM	slightly oxidized, moderately cemented, locally porous.
				18		
				19		18.8 to 20.0' - No Recovery
				20		

Figure A-1a

BORING B1 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles, Los Angeles, California

Excavation Date: May 5, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 506.8
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				20		Same as previous
3	5	76			SP	20.0' - Sand, brown (7.5YR-10YR 5/3), fine-grained, well sorted, trace gravel (1/8 to 1/4") slightly slightly oxidized, moderatlely cemented.
				21		
				22		
				23		23.5' - Sand to Sand with Silt, brown (7.5YR-10YR 5/3), abundant gravel (predominantly 1/16 to 1/8', few to 1"), medium- to coarse-grained, moderately cemented.
			■	24	SP-SM	23.8 - 25.0' - No Recovery
				25		
3	6	90				25' - grades to sand, abundant gravel
				26		
				27		
				28	SP	**Residual Soil (Qrs)** 27.3' - Sand, pale yellow (2.5Y 7/4), fine-grained, well sorted, slightly oxidized, moderately cemented, fine CaCO3. (3Btkb - Residual Soil)
			■	29		**Monterey Formation (Tm)** 28.2' - Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded, thinly bedded (1/2 to 2 inches thick), highly weathered.
				30		29.5 to 30.0' - No Recovery
4	7	90				
				31		
				32		
				33		
				34		
			■			34.5 to 35.0' - No Recovery
				35		Total depth of boring 35 feet
				36		Fill to 1.8 feet Groundwater not encountered
				37		Backfilled with soil cuttings and tamped Surface restored
				38		
				39		
				40		

Figure A-1b

BORING B2

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: May 5, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 506.8
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				0		Started Sampling at 1.0 feet
						Artificial Fill (af)
				1		Sandy Silt and Clayey Silt, brown, fine-gained, minor to abundant gravel (to 1 inch), slightly moist.
1	1	100		2		
				3		**Older Alluvium (Qoal)**
					ML	2.5' -Clayey Silt, brown (7.5YR-10YR 5/3), trace gravel (1/8 - 1/4"), slightly moist.
				4		
				5		
1	2	100		6		
				7		
				8		
				9		
				10		
2	3	80		11		
				12		
				13		
				14		14.0 to 15.0' - No Recovery
				15		
2	4	84		16		
				17		
				18	SM	17.2' - Silty Sand, brown (7.5YR-10YR 5/3), fine- to medium-grained, minor gravel (to 1/2"), slightly oxidized, moderately cemented, locally porous.
				19		19.2 - 20.0' - No Recovery
				20		

Figure A-2a

BORING B2 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles, Los Angeles, California

Excavation Date: May 5, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 506.8
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
3	5	56		20	SP	20.0' - Silty Sand, brown (7.5YR-10YR 5/3), fine-grained, well sorted, slightly oxidized, oxidized, moderatlely cemented.
				21		
				22		
			■	23		22.8 to 25.0' - No Recovery
			■	24		
			■	25		
3	6	74			SP-SM	23.0' - Sand to Sand with Silt, brown (7.5YR-10YR 5/3), abundant gravel (predominantly 1/16 to 1/8", some to 1-1/2"), coarse-grained, moderately cemented.
				26		
				27		
				28		**Monterey Formation (Tm)** 27.2' - Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded, thinly bedded (1/2 to 2 inches thick), highly weathered.
			■	29		28.7 to 30.0' - No Recovery
			■	30		
4	7	98		31		
				32		
				33		
				34		
				35		34.9 to 35.0' - No Recovery
				36		Total depth of boring 35 feet Fill to 2.5 feet Groundwater not encountered Backfilled with soil cuttings and tamped Surface restored
				37		
				38		
				39		
				40		

Figure A-2b

BORING B3A

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles, Los Angeles, California

Excavation Date: April 29, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 492.0
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				0		Started Sampling at 0.4'
						Artificial Fill (af)
1	1	84		1		0.4' - Silty Sand to Silt, fine-grained, trace gravel and roots, slightly moist.
				2		
				3		**Older Alluvium (Qoal)**
1	2	100		4	SM	2.5' - Silty Sand, brown (7.5YR-10YR 4/3), fine- to medium-grained, minor to with gravel (to 1/2"), moderately cemented, slightly oxidized, porous. (Bt1 - Argillic Horizon, truncated)
				5		
1	3	65		6	SP-SM	5.2' - Sand to Sand with Silt, brown (7.5YR-10YR 4/3), fine-grained, well sorted, trace gravel (1/8 to 1/8-1/4"), slightly oxidized, moderatley cemented. (Bt2 - Argillic Horizon)
				7		6.7 to 7.0' - No Recovery
1	4	100		8	SP	8.6' - Sand, brown (7.5YR-10YR 4/3), abundant gravel (predominantly 1/16 to 1/8", some to 1-1/2"), coarse-grained, moderately cemented. (BC/C - Scour Deposit)
				9	SM	9.1 - Silty Sand, brown (7.5YR-10YR 4/3), fine-grained, well sorted, slightly oxidized, moderately cemented. (2Btb - Argillic Horizon, truncated, laterally discontinuous)
				10		
2	5	52		11	SP-SM	9.3'- Sand to Sand with Silt, brown (7.5YR-10YR 4/3), abundant gravel (predominantly 1/16 to 1/8", some to 1-1/2"), moderately cemented. (2BCb/2Cb - Scour Deposit)
				12		11.3 to 12.5' - No Recovery
				13		
2	6	100		14		**Monterey Formation (Tm)** 13.0' - Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded, thinly bedded (1/2 to 2 inches thick), highly weathered.
				15		
				16		Total depth of boring 15 feet Fill to 2.5 feet Groundwater not encountered Backfilled with soil cuttings and tamped Surface restored
				17		
				18		
				19		
				20		

Figure A-3a

BORING B4

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 29, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 492.3
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				0		
						Hand Augered to 5 feet
				1		
				2		
				3		
				4		
						Debris Flow (Qdf)
				5		5.0' - Silty Sand, brown (10YR 5/3), fine- to medium-grained, minor to with gravel
1	1	100				(to 1/2"), moderately cemented, slightly oxidized, porous.
				6		(Bt1 - Argillic Horizon, truncated)
				7		
				8		
				9		
						Older Alluvium (Qoal)
				10	**SP**	9.6' - Sand, brown (7.5YR-10YR 4/3), fine-grained, well sorted, trace gravel (1/8 to 1/4"),
1	2	100				slightly oxidized, moderatlely cemented. (Bt2 - Argillic Horizon)
				11		
					SP-SM	11.0' - Sand to Sand with Silt, brown (7.5YR-10YR 4/3), abundant gravel (predominantly 1/16
				12		to 1/8", some to 1-1/2"), moderately cemented. (BC/C - Scour Deposit)
					SM	11.9' - Silty Sand, brown (7.5YR-10YR 4/3), fine-grained, well sorted, moderately cemented.
				13		(2Btb - Argillic Horizon, truncated, laterally discontinuous)
				14	**SP**	12.7' - Sand to Sand with Silt,brown (7.5YR-10YR 4/3), medium- to coarse-grained,
						abundant gravel (predominantly 1/16 to 1/8", some to 1-1/2"), moderately cemented.
				15		(2BCb/2Cb - Scour Deposit)
2	3	80				**Residual Soil (Qrs)**
				16		13.0 - Sand, pale yellow (2.5Y 7/4), fine-grained, well sorted, slightly oxidized, moderately cemented,
						fine CaCO3 nodules. (3Btkb - Residual Soil)
				17		**Monterey Formation (Tm)**
						13.2' - Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded,
				18		thinly bedded (1/2 to 2 inches thick), highly weathered.
				19		
						19.0 to 20.0' - No Recovery
				20		

Figure A-4a

BORING B4 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 29, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 492.3
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				20		Same as Previous
2	4	76		21		
				22		
				23		
				24		23.8 to 25.0' - No Recovery
				25		
3	5	76		26		
				27		
				28		
				29		28.8 to 30.0' - No Recovery
				30		
3	6	100		31		
				32		
				33		
				34		
				35		
4	7	100		36		
				37		
				38		Total depth of boring 40 feet Depth of fill not determined Groundwater not encountered Backfilled with soil cuttings and tamped Surface restored
				39		
				40		

Figure A-4b

BORING B5

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 30, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 491.5
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				0		
						Hand Augered to 5 feet
				1		
				2		
				3		
				4		
				5		**Artificial Fill (af)**
1	1	94				Silty Sand to Sandy Silt and Clayey Sand, brown, fine-gained, minor to abundant gravel
				6		(to 2 inches), slightly moist.
				7		
				8		
				9		
				10		9.7 to 10.0' - No Recovery
1	2	94			SP-SM	**Debris Flow (Qdf)**
				11		10.0' - Sand to Silty Sand, grayish brown (10YR 5/2), fine-grained, well sorted, trace gravel (to 1/4"), some organics, porous. (AB - Top Soil Horizon, truncated)
				12		10.4' - Silty Sand, brown (10YR 5/3), fine- to medium-grained, minor to with gravel (to 1/2"), moderately cemented, slightly oxidized, porous.
				13		(Bt1 - Argillic Horizon)
				14		
				15		14.7 to 15.0' - No Recovery
2	3	100			SP	
				16		15.0- Sand, 10YR 5/3, fine-grained, well sorted, trace gravel (1/8 to 1/4"), slightly oxidized, crudely stratified, moderately cemented. (Bt2 - Argillic Horizon)
				17		
				18		
				19		
				20		

Figure A-5a

BORING B5 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles, Los Angeles, California

Excavation Date: April 30, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 491.5
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				20		Same as Previous
2	4	80		21	SP-SM	20.5' - Sand to Sand with Silt, yellowish brown (10YR 5/4), abundant gravel (predominantly 1/16 to 1/8", some to 1-1/2"), coarse-grained, moderately cemented. (BC/C - Scour Deposit)
				22		**Monterey Formation (Tm)**
				23		21.1' - Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded, thinly bedded (1/2 to 2 inches thick), highly weathered.
			■	24		24.0 to 25.0' - No Recovery
3	5	100		25		
				26		
				27		
				28		
				29		
				30		
3	6	80		31		
				32		
				33		
			■	34		34.0 to 35.0' - No Recovery
				35		
4	7	80		36		
				37		
				38		
				39		
			■	40		44.0 to 45.0' - No Recovery

Figure A-5b

BORING B5 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 30, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 491.5
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
4	8	80		40		Same as Previous
				41		
				42		
				43		
				44		
						44.0 to 45.0' - No Recovery
				45		
						Total depth of boring 45 feet
				46		Fill to 10 feet
						Groundwater not encountered
				47		Backfilled with soil cuttings and tamped
						Surface restored
				48		
				49		
				50		
				51		
				52		
				53		
				54		
				55		
				56		
				57		
				58		
				59		
				40		

Figure A-5c

BORING B6

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 29, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 490.0
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				0		
						Hand Augered to 5 feet
				1		
				2		
				3		
				4		
				5		**Artificial Fill (af)**
1	1	100				5.0'- Silt with Sand, brown, fine-grained, minor gravel (to 1"), slightly moist.
				6		
				7		
				8		7.8' decrease in gravel
				9		
				10		
1	2	100				**Debris Flow (Qdf)**
				11	**SP-SM**	10.1' - Sand to Silty Sand, grayish brown (10YR 5/2), fine-grained, well sorted, trace gravel (to 1/4"), some organics, porous. (AB - Top Soil Horizon, truncated)
				12		
				13		12.4' - Silty Sand, brown (10YR 5/3), fine- to medium-grained, minor to with gravel
					SM	(to 1/2"), moderately cemented, slightly oxidized, porous. (Bt1 - Argillic Horizon)
				14		
				15	**SP**	14.7- Sand, brown (10YR 5/3), fine-grained, well sorted, trace gravel (1/8 to 1/4"), slightly oxidized, crudely stratified, moderately cemented. (Bt2 - Argillic Horizon)
2	3	90				
				16		**Residual Soil (Qrs)**
					SP-SM	15.0' - Sand to Sand with Silt, yellowish brown (10YR 5/4), fine-grained, well sorted,
				17		trace gravel (1/8 to 1/4"), slightly oxidized, fine CaCO3 nodules. (2Btkb-Residual Soil)
						Monterey Formation (Tm)
				18		17.1' - Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded,
						thinly bedded (1/2 to 2 inches thick), highly weathered.
				19		
				20		19.5 to 20.0' - No Recovery

Figure A-6a

BORING B6 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 29, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 490.0
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				20		Same as Previous
2	4	90		21		
				22		
				23		
				24		
			■	25		24.0 to 25.0' - No Recovery
3	5	90		26		
				27		
				28		
				29		
			■	30		29.0 to 30.0' - No Recovery
3	6	80		31		
				32		
				33		
				34		
			■	35		34.0 to 35.0' - No Recovery
4	7	84		36		
				37		
				38		
				39		
			■	40		39.2 to 40.0' - No Recovery

Figure A-6b

BORING B6 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 29, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 490.0
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
4	8	90		40		Same as Previous
				41		
				42		
				43		
				44		
			■			44.5 to 45.0' - No Recovery
				45		Total depth of boring 45 feet
				46		Fill to 10.1 feet
						Groundwater not encountered
				47		Backfilled with soil cuttings and tamped
						Surface restored
				48		
				49		
				50		
				51		
				52		
				53		
				54		
				55		
				56		
				57		
				58		
				59		
				40		

Figure A-6c

BORING B7

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 30, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 489.0
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				0		
						Hand Augered to 5 feet
				1		
				2		
				3		
				4		
				5		**Artificial Fill (af)**
1	1	100				5.0' - Silty Sand to Sandy Silt, brown, with gravel (1/4-1"), slightly moist.
				6		
				7		
				8		
				9		
				10		**Debris Flow (Qdf)**
1	2	100			SP-SM	9.7' - Sand to Silty Sand, grayish brown (10YR 5/2), fine-grained, well sorted, trace
				11		gravel (to 1/4"), some organics, porous. (AB - Top Soil Horizon, truncated)
					SM	11.5'- Silty Sand, brown (10YR 5/3), fine- to medium-grained, minor to with gravel
				12		(to 1/2"), moderated cemented, slightly oxidized, porous.
						(Bt1 - Argillic Horizon)
				13		
				14		**Older Alluvium (Qoal)**
					SP	14.3' - Sand, brown (7.5YR-10YR 4/3), fine-grained, well sorted, trace gravel (1/8 to 1/4"), slightly
				15		oxidized, moderately cemented, crudely stratified. (Bt2 - Argillic Horizon)
2	3	80			SP-SM	**Residual Soil (Qrs)**
				16		15.0' - Sand to Silty Sand, pale yellow (2.5Y 7/4), fine-grained, well sorted, slightly oxidized,
						moderately cemented, fine CaCO3 nodules. (2Btkb - Residual Soil)
				17		**Monterey Formation (Tm)**
						15.8' - Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded,
				18		thinly bedded (1/2 to 2 inches thick), highly weathered.
				19		
				20		19.0 to 20.0' - No Recovery

Figure A-7a

BORING B7 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 30, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 489.0
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				20		Same as Previous
2	4	80		21		
				22		
				23		
				24		
			■			24.0 to 25.0' - No Recovery
				25		
3	5	90		26		
				27		
				28		
				29		
			■			29.5 to 30.0' - No Recovery
				30		
3	6	100		31		
				32		
				33		
				34		
				35		
4	7	100		36		
				37		
				38		
				39		
				40		

Figure A-7b

BORING B7 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 30, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 489.0
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
4	8	90		40 --		Same as Previous
				41 --		
				42 --		
				43 --		
				44 --		
			■			44.5 to 45.0' - No Recovery
5	9	100		45 --		
				46 --		
				47 --		
				48 --		
				49 --		
5	10	100		50 --		
				51 --		
				52 --		
				53 --		
				54 --		
6	11	100		55 --		
				56 --		
				57 --		
				58 --		Total depth of boring 60 feet Fill to 9.7 feet Groundwater not encountered Backfilled with soil cuttings and tamped Surface restored
				59 --		
				60 --		

Figure A-7c

BORING B8

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 30, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 483.6
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				0		
						Hand Augered to 5 feet
				1		
				2		
				3		
				4		
						Debris Flow (Qdf)
				5	SM	5.0' - Silty Sand, brown (10YR 5/3), fine- to medium-grained, minor to with gravel
1	1	80				(to 1/2"), moderately cemented, slightly oxidized, porous.
				6		(Bt1 - Argillic Horizon, truncated)
				7		**Older Alluvium (Qoal)**
						7.8' - Sand, brown (7.5YR-10YR 4/3), fine-grained, well sorted, trace gravel (1/8 to 1/4"),
				8	SP	slightly oxidixed, crudely stratified, moderately cemented. (Bt2 - Argillic Horizon)
						9.2 to 10.0' - No Recovery
				9		10.0' - Sand to Sand with Silt, brown (7.5YR-10YR 4/3), medium- to coarse-grained,
						abundant gravel (predominantly 1/16 to 1/8", some to 1-1/2"), moderately cemented.
				10	SP-SM	(BC/C - Scour Deposit)
1	2	80				10.9' - Silty Sand, brown (7.5YR-10YR 4/3), fine-grained, well sorted, slightly oxidized,
				11	SM	moderatley cemented. (2Btb - Argillic Horizon, truncated, laterally discontinuous)
						11.5' - Sand to Sand with Silt, brown (7.5YR-10YR 4/3), abundant gravel (predominantly
				12	SP-SM	1/16 to 1/8", some to 1-1/2'), medium- to coarse-grained, moderately cemented.
						(2BCb/2Cb - Scour Deposit)
				13	SP	**Residual Soil (Qrs)**
						12.0' - Sand, pale yellow (2.5Y 7/4), fine-grained, well sorted, slightly oxidized,
				14		moderately cemented, fine CaCO3 nodules. (3Btkb - Residual Soil)
						Monterey Formation (Tm)
				15		12.3' - Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded,
						thinly bedded (1/2 to 2 inches thick), highly weathered.
2	3	74				
				16		14.0 to 15.0' - No Recovery
				17		
				18		
				19		18.7 to 20.0' - No Recovery
				20		

Figure A-8a

BORING B8 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 30, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 483.6
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				20 -- -		Same as Previous
2	4	74		**21** -- -		
				22 -- -		
				23 -- -		
				24 -- -		23.7 to 25.0' - No Recovery
				25 -- -		
3	5	84		**26** -- -		
				27 -- -		
				28 -- -		
				29 -- -		29.2 to 30.0' - No Recovery
				30 -- -		
3	6	80		**31** -- -		
				32 -- -		
				33 -- -		
				34 -- -		34.0 to 35.0' - No Recovery
				35 -- -		
4	7	100		**36** -- -		
				37 -- -		
				38 -- -		
				39 -- -		
				40 -- -		

Figure A-8b

BORING B8 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 30, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 483.6
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				40 -- -		Same as Previous
4	8	90		**41** -- -		
				42 -- -		
				43 -- -		
				44 -- -		44.5 to 45.0' - No Recovery
5	9	86		**45** -- -		
				46 -- -		
				47 -- -		
				48 -- -		
				49 -- -		49.3 to 50.0' - No Recovery
5	10	86		**50** -- -		
				51 -- -		
				52 -- -		
				53 -- -		
				54 -- -		54.3 to 55.0' - No Recovery
6	11	90		**55** -- -		
				56 -- -		
				57 -- -		
				58 -- -		
				59 -- -		59.5 to 60.0' - No Recovery
				60 -- -		

Figure A-8c

BORING B8 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: April 30, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 483.6
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
4	8	78		60		Same as Previous
				61		
				62		
				63		
				64		63.9 to 65.0' - No Recovery
				65		Total depth of boring 65 feet
				66		Depth of fill not determined
						Groundwater not encountered
				67		Backfilled with soil cuttings and tamped
						Surface restored
				68		
				69		
				70		
				71		
				72		
				73		
				74		
				75		
				76		
				77		
				78		
				79		
				80		

Figure A-8d

BORING B9

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: May 5, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 481.5
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				0		
						Hand Augered to 5 feet
				1		
				2		
				3		
				4		
						Debris Flow (Qdf)
				5	SM	5.0' - Silty Sand, brown (10YR 5/3), fine- to medium-grained, minor to with gravel
1	1	30				(to 1/2"), moderately cemented, slightly oxidized, porous.
				6		(Bt1 - Argillic Horizon)
						Older Alluvium (Qoal)
				7	SP	5.5' - Sand, brown (7.5YR-10YR 4/3), fine-grained, well sorted, trace gravel (1/8 to 1/4"), slightly oxidized, moderately cemented, crudely stratified. (Bt2 - Argillic Horizon)
				8		6.5 to 10.0' - No Recovery
				9		10.0' - medium-grained, well sorted, weakly laminated 0.05' thick
				10		10.6' - Sand to Sand with Silt, brown (7.5YR-10YR 4/3), medium- to coarse-grained,
1	2	64			SP-SM	poorly sorted, abundant gravel (predominantly 1/16 to 1/8", some to 1-1/2"), moderately
				11		cemented. (BC/C - Scour Deposit)
				12		**Residual Soil (Qrs)**
					SP	11.8' - Sand, pale yellow (2.5Y 7/4), fine-grained, well sorted, slightly oxidized,
				13		moderately cemented, fine CaCO3 nodules. (2Btkb - Residual Soil)
						Monterey Formation (Tm)
				14		12.8' - Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded, thinly bedded (1/2 to 2 inches thick), highly weathered.
				15		13.2 to 15.0' - No Recovery
2	3	92				
				16		
				17		
				18		
				19		
				20		19.6 to 20.0' - No Recovery

Figure A-9a

BORING B9 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: May 5, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 481.5
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
				20 -- -		Same as Previous
2	4	70		**21** -- -		
				22 -- -		
				23 -- -		
				24 -- -		23.5 to 25.0' - No Recovery
				25 -- -		
3	5	86		**26** -- -		
				27 -- -		
				28 -- -		
				29 -- -		29.3 to 30.0' - No Recovery
				30 -- -		
3	6	72		**31** -- -		
				32 -- -		
				33 -- -		
				34 -- -		33.6 to 35.0' - No Recovery
				35 -- -		
4	7	84		**36** -- -		
				37 -- -		
				38 -- -		
				39 -- -		39.2 to 40.0' - No Recovery
				40 -- -		

Figure A-9b

BORING B9 (continued)

GEOCON WEST, INC.

Project No.: A9060-06-03
Client: UCLA Capital Programs
Location: University of California Los Angeles
Los Angeles, California

Excavation Date: May 5, 2014
Drilling Company: Cascade Drilling
Excavation Method: Hollow Stem Auger (CME 85)
Boring Diameter: 8-inches
Surface Elevation: 481.5
Geologist: AL/SFK

Box	Run #	% Rec	REC.	Depth (feet)	USCS Class.	Description
4	8	84		40 --		
				41 --		
				42 --		
				43 --		
				44 --		44.2 to 45.0' - No Recovery
				45 --		Total depth of boring 45 feet
				46 --		Depth of fill not determined
						Groundwater not encountered
				47 --		Backfilled with soil cuttings and tamped
						Surface restored
				48 --		
				49 --		
				50 --		
				51 --		
				52 --		
				53 --		
				54 --		
				55 --		
				56 --		
				57 --		
				58 --		
				59 --		
				60 --		

Figure A-9c

BORING B10

GEOCON WEST, INC.

A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 9, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 491.5
Geologist: SFK

Depth (feet)	USCS Class.	Description
0		2 inches of Asphalt
		Artificical Fill (af)
1		Silty Sand to Sandy Silt and Clayey Sand, brown, fine-gained, minor to abundant gravel (to 2 inches), few asphalt fragments (to 4 inches maximum dimension), slightly moist.
2		
3		
4		
5		
6		
7		
8		
9		
10		**Debris Flow (Qdf)**
11	SM	10.0' - Silty Sand, brown (10YR 5/3), fine- to medium-grained, minor to abundant gravel (1/8 to 1/2"), trace clay, massive, slightly moist.
12		12 to 14' - abundant gravel (predominantly slate clasts to 3")
13		
14		
15		
16		
17		
18		**Residual Soil (Qrs)**
19	SP	18.5' - Sand to Silty Sand, pale yellow (10YR 7/4-7/6 to 2.5 7/4-7/6), well sorted, minor clay, moderately cemented, fine CaCO3 nodules, slightly moist. Lower contact irregular and eroded.
20		**Monterey Formation (Tm)**
		19.5' -Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded, thinly bedded (1/2 to 2 inches thick),

Figure A-10a

BORING B10 (continued)

GEOCON WEST, INC.

A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 9, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 491.5
Geologist: SFK

Depth (feet)	USCS Class.	Description
20		highly weathered.
21		20' - Bedding: N34E, 42SE
22		
23		
24		
25		25' - Bedding: N38E, 40SE
26		
27		
28		28' - Bedding: N34E, 40SE
29		
30		Total depth of boring 30 feet
31		Fill to 10.0 feet
		Groundwater not encountered
32		Down hole logged by Susan Kirkgard
		Backfilled with soil cuttings and tamped
33		Surface restored
34		
35		
36		
37		
38		
39		
40		

Figure A-10b

BORING B11

GEOCON WEST, INC.

A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 9, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 491.7
Geologist: SFK

Depth (feet)	USCS Class.	Description
0		2 inches of Asphalt
		Artificical Fill (af)
1		Clayey Sand to Silty Sand, brown, fine-gained, abundant gravel (1/16 - 1/8"), few asphalt fragments (to 4 inches maximum dimension), slightly moist.
2		
3		
4		4' - concrete fragments (to 8" maximum dimension)
5		5' - observed bench in fill (bench approximately 8" high, trends N50E across hole)
6		
7		
8		
9		
10		**Debris Flow (Qdf)**
	SM	9.8' - Silty Sand, brown (10YR 5/3), fine- to medium-grained, minor to abundant gravel (1/8 to 1/2"), trace clay, massive, slightly moist.
11		
12		11 to 13' - abundant gravel (predominantly slate clasts to 2")
13		
14		
15		**Residual Soil (Qrs)**
	SP-SM	15.5' - Sand to Silty Sand, pale yellow (10YR 7/4-7/6 to 2.5 7/4-7/6), well sorted, minor clay, moderately cemented,
16		fine CaCO3 nodules, slightly moist, few large cobbles (to 6"). Lower contact irregular and eroded.
17		**Monterey Formation (Tm)**
		16.0' -Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded, thinly bedded (1/2 to 2 inches thick),
18		highly weathered
19		
20		20' - Bedding: N45E, 36SE

Figure A-11a

BORING B11 (continued)

GEOCON WEST, INC.

A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 9, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 491.7
Geologist: SFK

Depth (feet)	USCS Class.	**Description**
20		Same as previous
25		Total depth of boring 25 feet Fill to 9.8 feet Groundwater not encountered Down hole logged by Susan Kirkgard Backfilled with soil cuttings and tamped Surface restored

Figure A-11b

BORING B12

GEOCON WEST, INC.

A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 10, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 491.5
Geologist: SFK

Depth (feet)	USCS Class.	Description
0		2 inches of Asphalt
		Artificical Fill (af)
1		Clayey Sand to Silty Sand, brown, fine-gained, abundant gravel (1/16 - 1/8"), few asphalt fragments (to 4 inches maximum dimension), slightly moist.
2		
3		
4		
5		
6		
7		
8		
9		
		9.5' - Some cobbles and debris
10		
		Debris Flow (Qdf)
11	SM	10.4' - Silty Sand, brown (10YR 5/3), fine- to medium-grained, minor to abundant gravel (1/8 to 1/2"), trace clay, massive, slightly moist.
12		11.6' - gravel content increases
13		12 to 14.3' - abundant gravel (predominantly slate clasts to 2")
14		
15		15.4' - increase in sand content, significant decrease in gravel content
16		16.1' - sand layer, minor gravel (1/16 - 1/8")
		Residual Soil (Qrs)
17	SP-SM	17.5' - Sand to Silty Sand, pale yellow (10YR 7/4-7/6 to 2.5 7/4-7/6), well sorted, minor clay, moderately cemented, fine CaCO3 nodules, slightly moist, few large cobbles, subrounded to subangular (3 - 8")
18		**Monterey Formation (Tm)**
		18.0' -Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded, thinly bedded (1/2 to 2 inches thick), highly weathered
19		18' - Contact: N72E, 31SE
20		19' - Beddding N45E, 32NE

Figure A-12a

BORING B12 (continued)

GEOCON
WEST, INC.

A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 10, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 491.5
Geologist: SFK

Depth (feet)	USCS Class.	**Description**
20		Same as previous
21		20' - Fault: N40E, 43NW
22		22' - Bedding: N55E, 35SE
23		
24		
25		Total depth of boring 25 feet
26		Fill to 10.4 feet
		Groundwater not encountered
27		Down hole logged by Susan Kirkgard
		Backfilled with soil cuttings and tamped
28		Surface restored
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

Figure A-12b

BORING B13

GEOCON WEST, INC.

A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 10, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 491.5
Geologist: SFK

Depth (feet)	USCS Class.	Description
0		2 inches of Asphalt
		Artificical Fill (af)
1		Silty Sand, brown, fine- to medium-grained, abundant gravel (1/16 - 1/8"), few asphalt fragments (to 5"), some siltstone and slate clasts to (to 4"), slightly moist.
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		**Debris Flow (Qrs)**
	SM	10.8' - Silty Sand, brown (10YR 5/3), fine- to medium-grained, minor to abundant gravel (1/8 to 1/2"), trace clay, massive, slightly moist.
12		
13		12.5 to 14.5' - abundant gravel
14		
		14.5 to 15.4' - silty sand, minor clay, trace fine gravel
15		
		15.4 - increase in sand content
16		
17		
18	SP-SM	**Residual Soil (Qrs)**
		17.5' - Sand to Silty Sand, pale yellow (10YR 7/4-7/6 to 2.5 7/4-7/6), well sorted, minor clay, moderately cemented, fine CaCO3 nodules, slightly moist, few large cobbles, subrounded at base (3 - 6")
19		Contact eroded and undulatory, cobbles in eroded areas.
		Monterey Formation (Tm)
20		18.0' -Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded, thinly bedded (1/2 to 2 inches thick), highly weathered.

Figure A-13a

BORING B13 (continued)

GEOCON WEST, INC.

A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 10, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 491.5
Geologist: SFK

Depth (feet)	USCS Class.	**Description**
20		Same as previous
21		
22		
23		22' - Bedding: N38, 35SE
24		
25		
		25.5' - Bedding: N 41E, 33SE
26		
27		
28		28' - Bedding: N42E, 32SE (polished and internally sheared dark gray siltstone bed, flattened roots in sheared material)
29		
30		
		Total depth of boring 30 feet
31		Fill to 10.8 feet
		Groundwater not encountered
32		Down hole logged by Susan Kirkgard
		Backfilled with soil cuttings and tamped
33		Surface restored
34		
35		
36		
37		
38		
39		
40		

Figure A-13b

BORING B14

GEOCON WEST, INC.

A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 11, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 491.0
Geologist: SFK

Depth (feet)	USCS Class.	Description
0		2 inches of Asphalt
		Artificical Fill (af)
1		Silty Sand and Clayey Sand, brown, fine-gained, minor to abundant gravel (to 2 inches), few asphalt fragments (to 4 inches maximum dimension), slightly moist.
2		
3		
4		
5		
6		
7		
8		
9		
10		**Debris Flow (Qdf)**
	SP-SM	10.0' - Sand to Silty Sand, grayish brown (10YR 5/2), fine-grained, well sorted, trace
11		gravel (to 1/4"), some organics, porous.
12		
	SM	12.0' - Silty Sand, brown (10YR 5/3), fine- to medium-grained, minor to with gravel (to 1/2"), moderately cemented
13		slightly oxidized, porous.
14		
15		
16		
		16.5 to 17.0' - abundant gravel
17		
		17.5' - increase in sand content, trace to minor fine gravel
18		
19		
20		irregular, eroded contact

Figure A-14a

BORING B14 (continued)

GEOCON WEST, INC.

A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 11, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 491.0
Geologist: SFK

Depth (feet)	USCS Class.	Description
20		**Monterey Formation (Tm)**
		20.0' - Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded, thinly bedded (1/2 to 2 inches thick), highly weathered.
21		20.0' - Contact: N48E, 32SE
22		
23		
		23.5' - friable sandstone, fine-grained
24		
25		
26		
27		
28		
29		
30		
		Total depth of boring 30 feet
31		Fill to 10.0 feet
		Groundwater not encountered
32		Down hole logged by Susan Kirkgard
		Backfilled with soil cuttings and tamped
33		Surface restored
34		
35		
36		
37		
38		
39		
40		

Figure A-14b

BORING B15

GEOCON WEST, INC.

A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 11, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 492.0
Geologist: SFK

Depth (feet)	USCS Class.	Description
0		2 inches of Asphalt
		Artificical Fill (af)
1		Silty Sand and Clayey Sand, brown, fine-gained, minor to abundant gravel (to 2 inches), few asphalt fragments (to 5 inches maximum dimension), slightly moist.
2		
3		
4		
5		
6		
7		**Debris Flow (Qdf)**
	SM	7.0' - Silty Sand , brown (10YR 5/3), fine- to medium-grained, minor to abundant gravel (1/8 to 1/2"), trace clay, massive, slightly moist.
8		
9		
		9.7 to 12.0' - abundant gravel (to 2")
10		
11		
12		**Residual Soil (Qrs)**
	SP-SM	11.8' - Sand to Silty Sand, pale yellow (10YR 7/4-7/6 to 2.5 7/4-7/6), well sorted, minor clay, moderately cemented, fine CaCO3 nodules, slightly moist, few large exotic cobbles, subrounded (3 - 8").
13		**Monterey Formation (Tm)**
14		13.0' -Interbedded Clayey Siltstone and Sandstone, fine-grained, well bedded, thinly bedded (1/2 to 2 inches thick), highly weathered
		13.0' - Contact N35E, 30SE
15		15.0' - Bedding:N32E, 33SE
16		15.0' - Fault: N30W, 50SW (1-1/2" offset)
17		
18		18.0' - Bedding: N30E, 32SE
19		18 to 20' - clayey siltstone bed, internally sheared, flattened roots in sheared material
20		

Figure A-15a

BORING B15 (continued)

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A9060-06-03
UCLA Capital Programs
University of California Los Angeles
Los Angeles, California

Excavation Date: June 11, 2014
Drilling Company: Alroy Drilling
Excavation Method: Bucket Auger
Boring Diameter: 24-inches
Surface Elevation: 492.0
Geologist: SFK

Depth (feet)	USCS Class.	**Description**
20		Same as previous
25		Total depth of boring 25 feet
		Fill to 7.0 feet
		Groundwater not encountered
		Down hole logged by Susan Kirkgard
		Backfilled with soil cuttings and tamped
		Surface restored

Figure A-15b

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rich@kehoetesting.com
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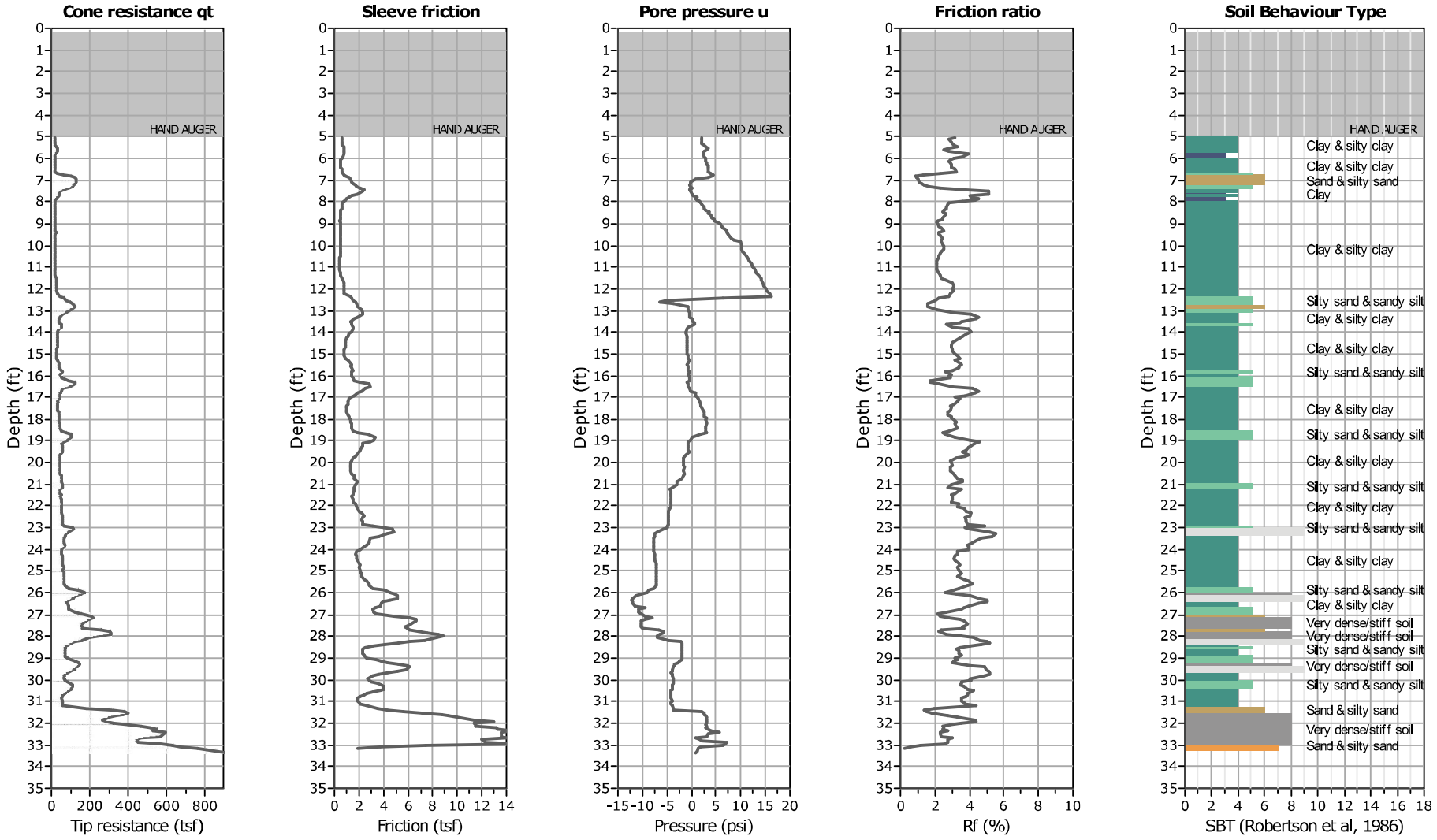
CPT: CPT-1

Project: **Geocon West/University of California, Los Angeles**
Location: **De Neve Dr. Los Angeles, CA**

Total depth: 33.34 ft, Date: 4/21/2014
Cone Type: Vertek



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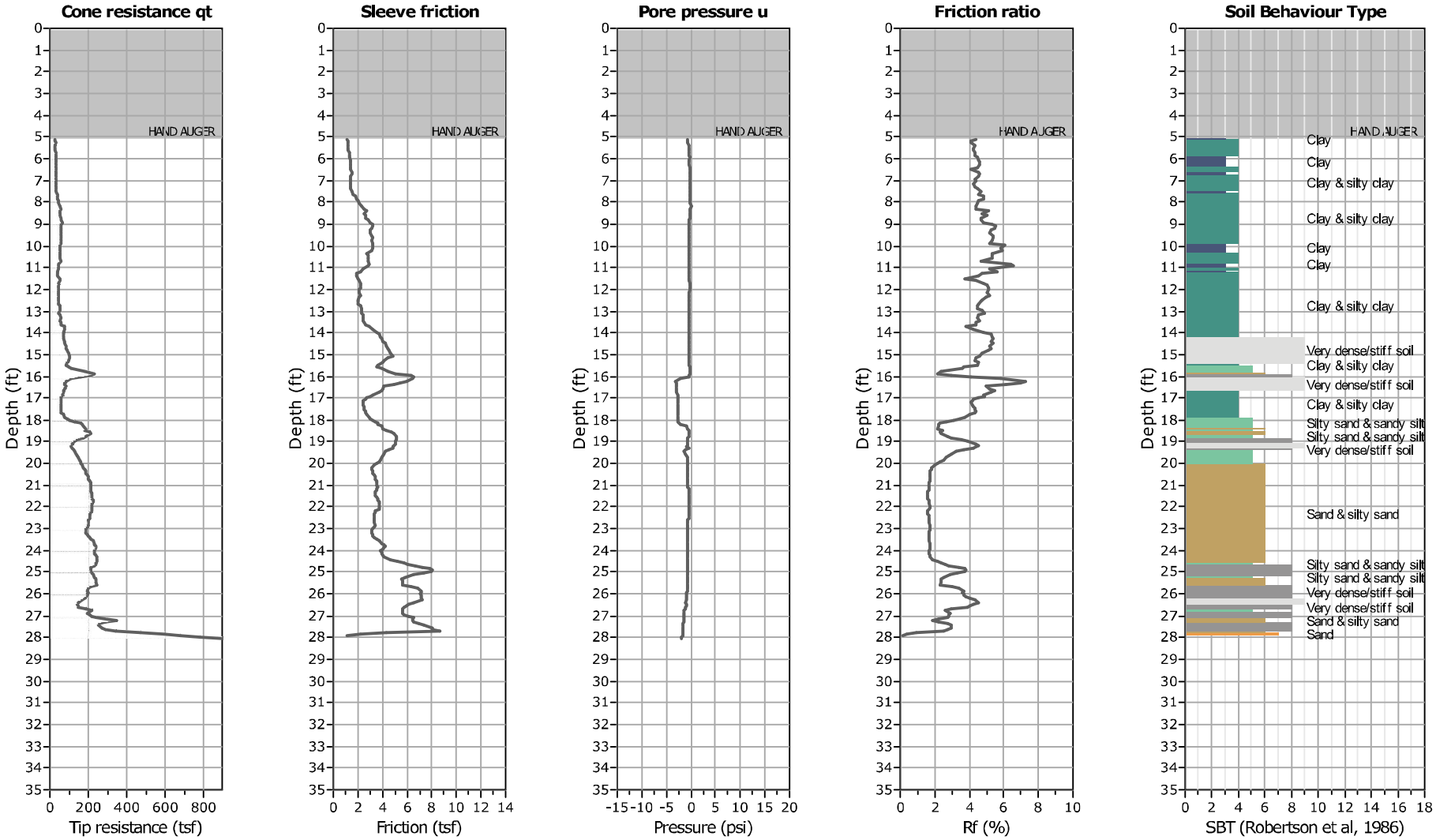
www.kehoetesting.com

CPT: CPT-2

Project: **Geocon West/University of California, Los Angeles**
Location: **De Neve Dr. Los Angeles, CA**

Total depth: 28.07 ft, Date: 4/21/2014
Cone Type: Vertek



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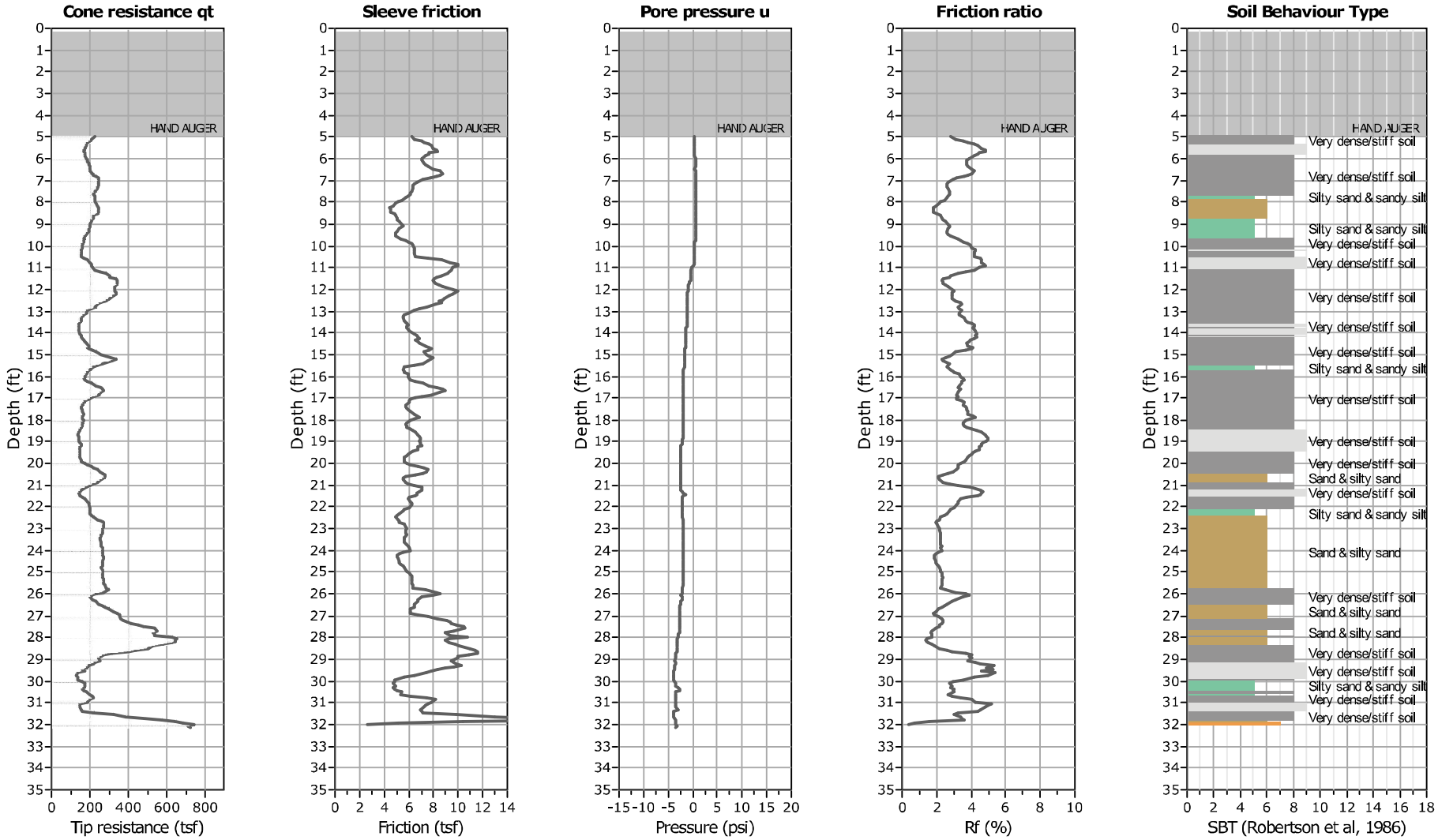
CPT: CPT-3

Project: **Geocon West/University of California, Los Angeles**
Location: **De Neve Dr. Los Angeles, CA**

Total depth: 32.12 ft, Date: 4/21/2014
Cone Type: Vertek



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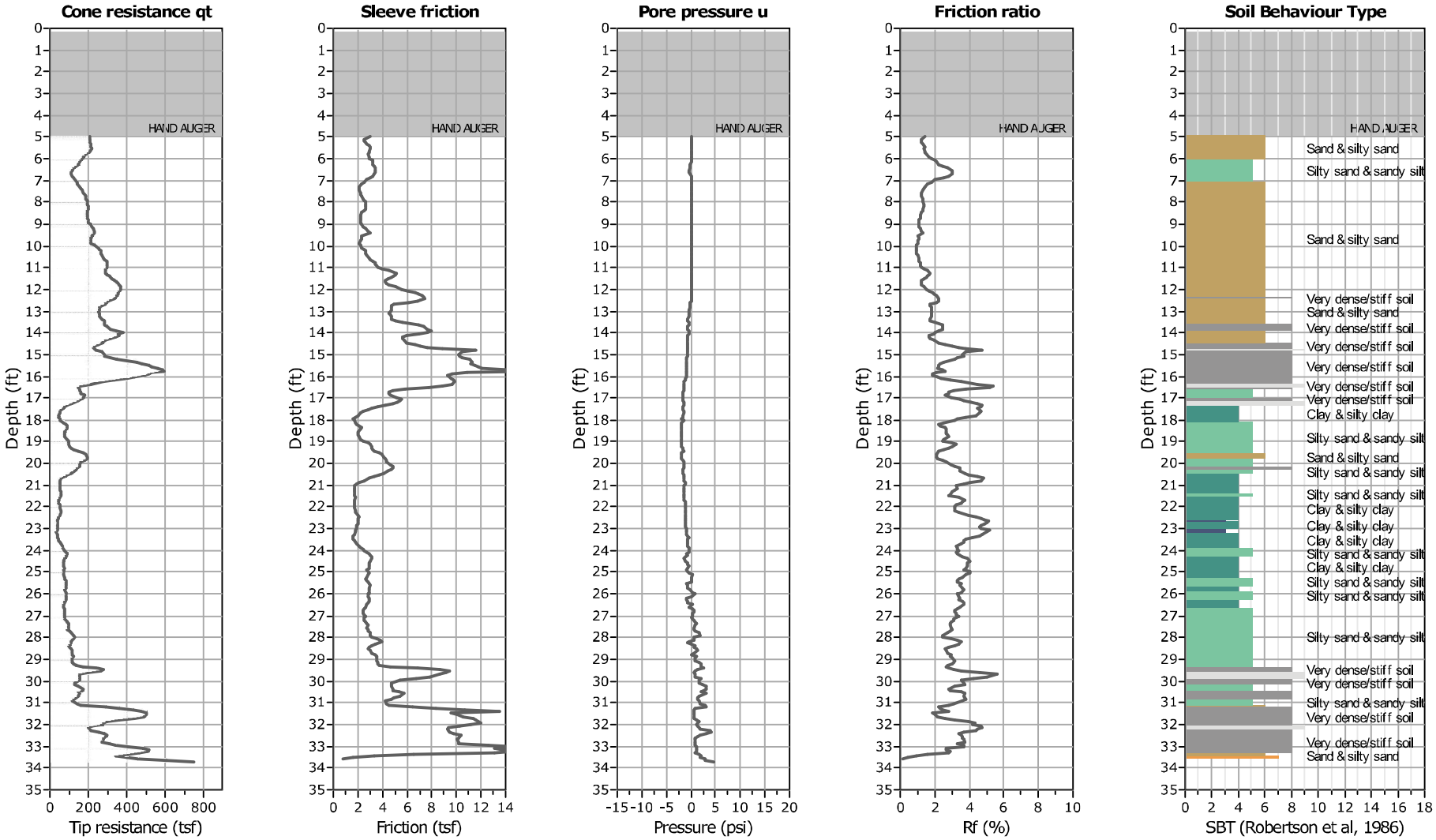
CPT: CPT-4

Project: **Geocon West/University of California, Los Angeles**
Location: **De Neve Dr. Los Angeles, CA**

Total depth: 33.74 ft, Date: 4/21/2014
Cone Type: Vertek



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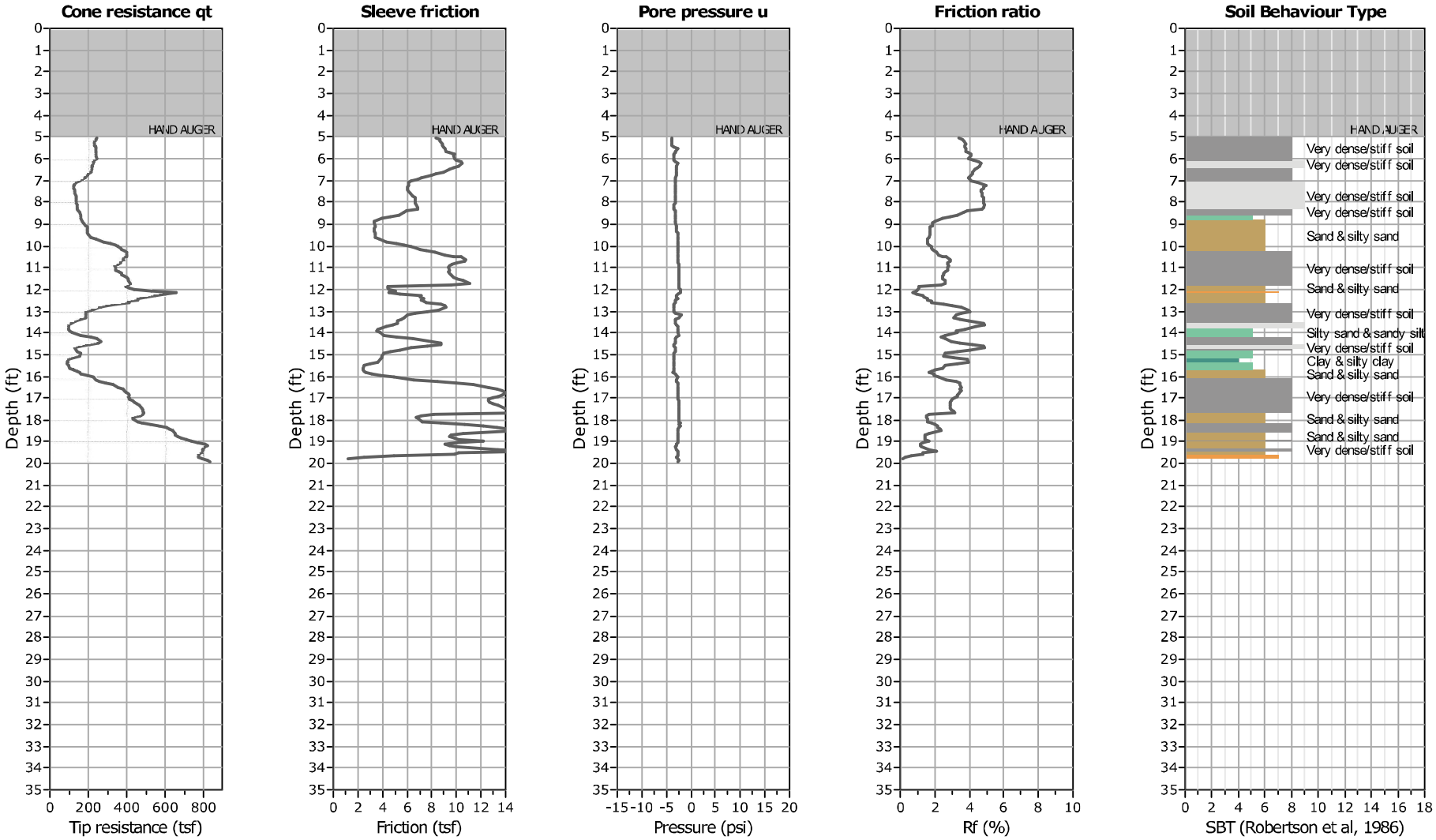
www.kehoetesting.com

CPT: CPT-5

Project: **Geocon West/University of California, Los Angeles**
Location: **De Neve Dr. Los Angeles, CA**

Total depth: 19.92 ft, Date: 4/21/2014
Cone Type: Vertek



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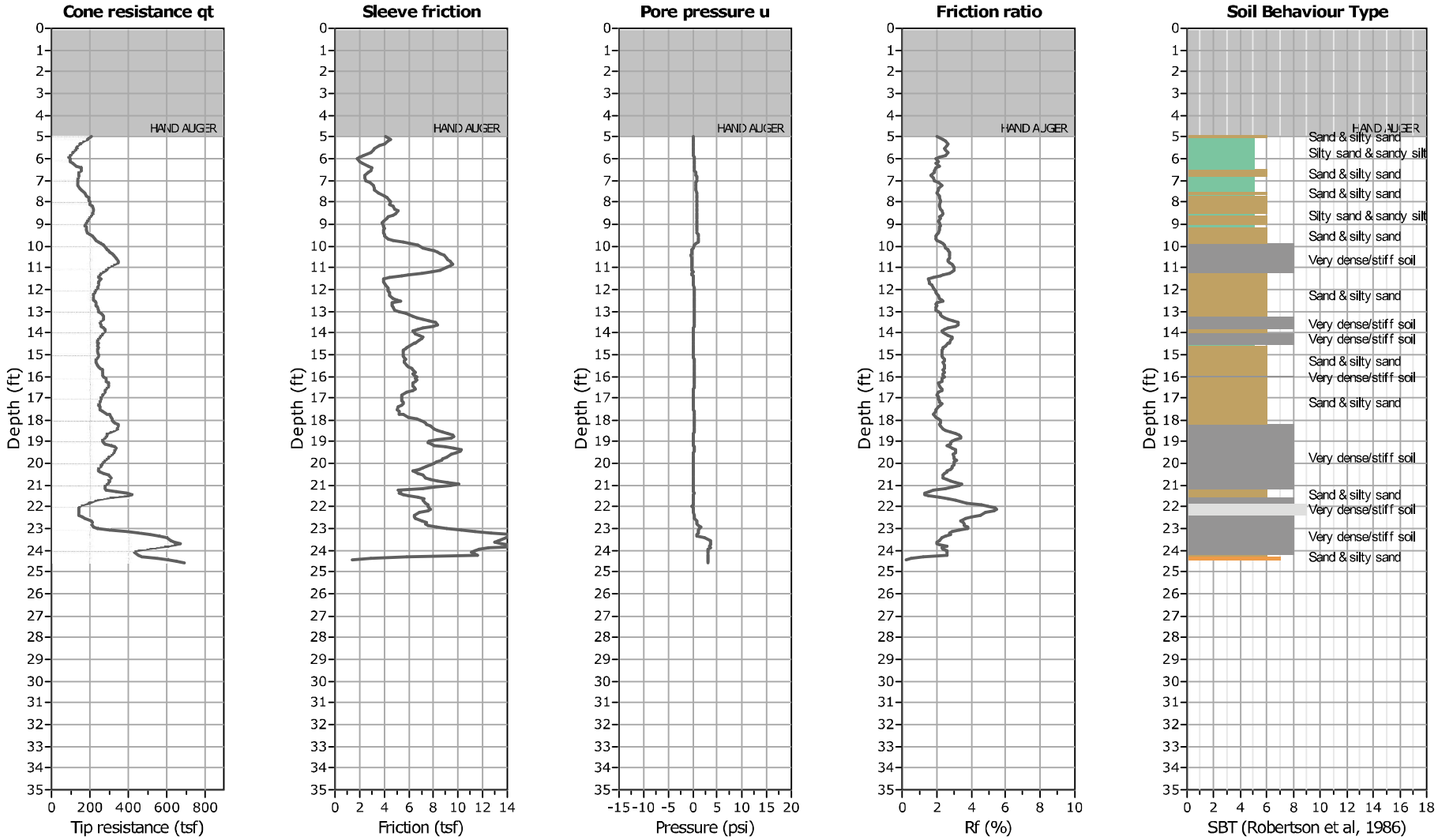
CPT: CPT-6

Project: **Geocon West/University of California, Los Angeles**
Location: **De Neve Dr. Los Angeles, CA**

Total depth: 24.56 ft, Date: 4/21/2014
Cone Type: Vertek



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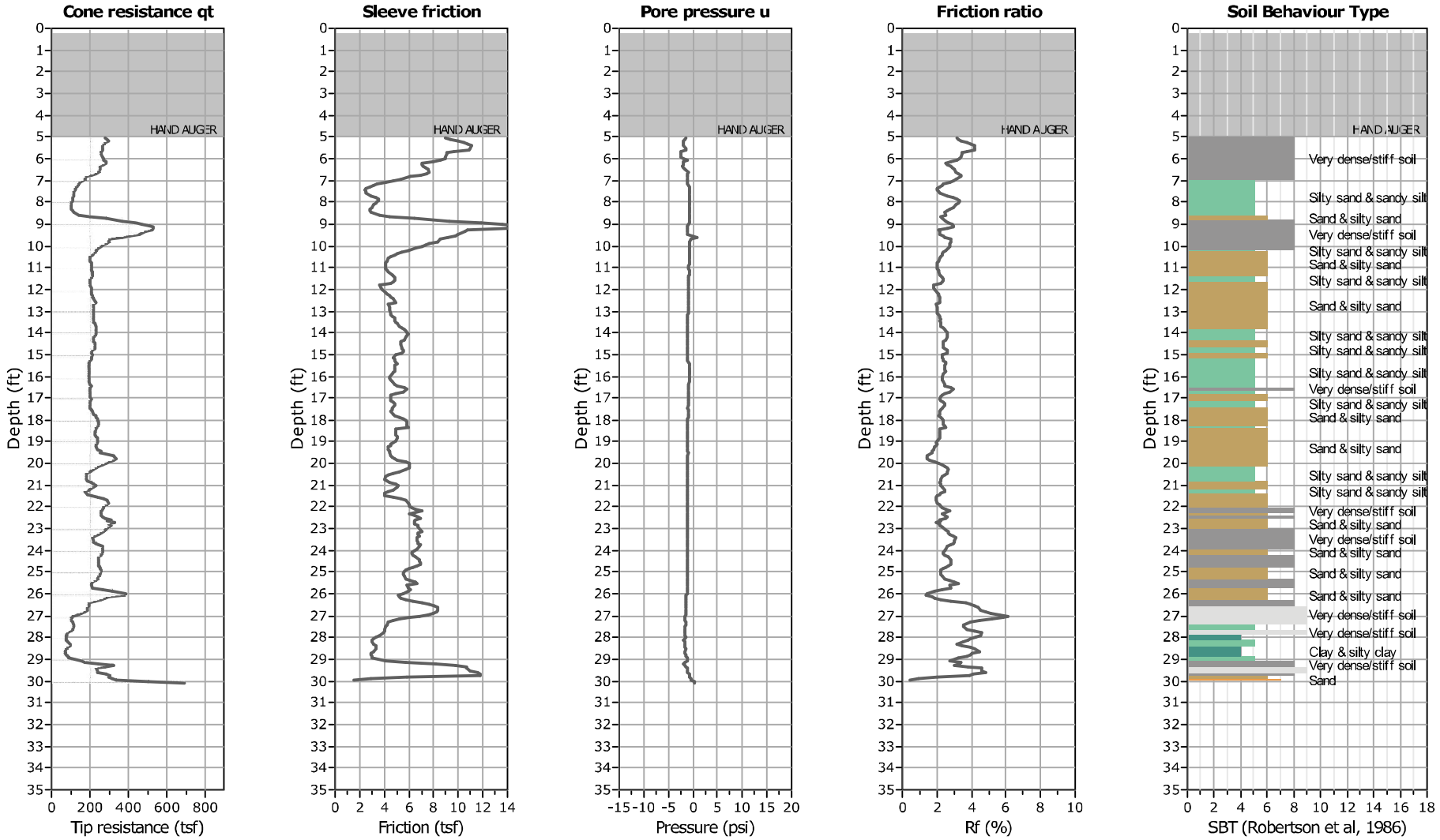
CPT: CPT-7

Project: **Geocon West/University of California, Los Angeles**
Location: **De Neve Dr. Los Angeles, CA**

Total depth: 30.10 ft, Date: 4/21/2014
Cone Type: Vertek



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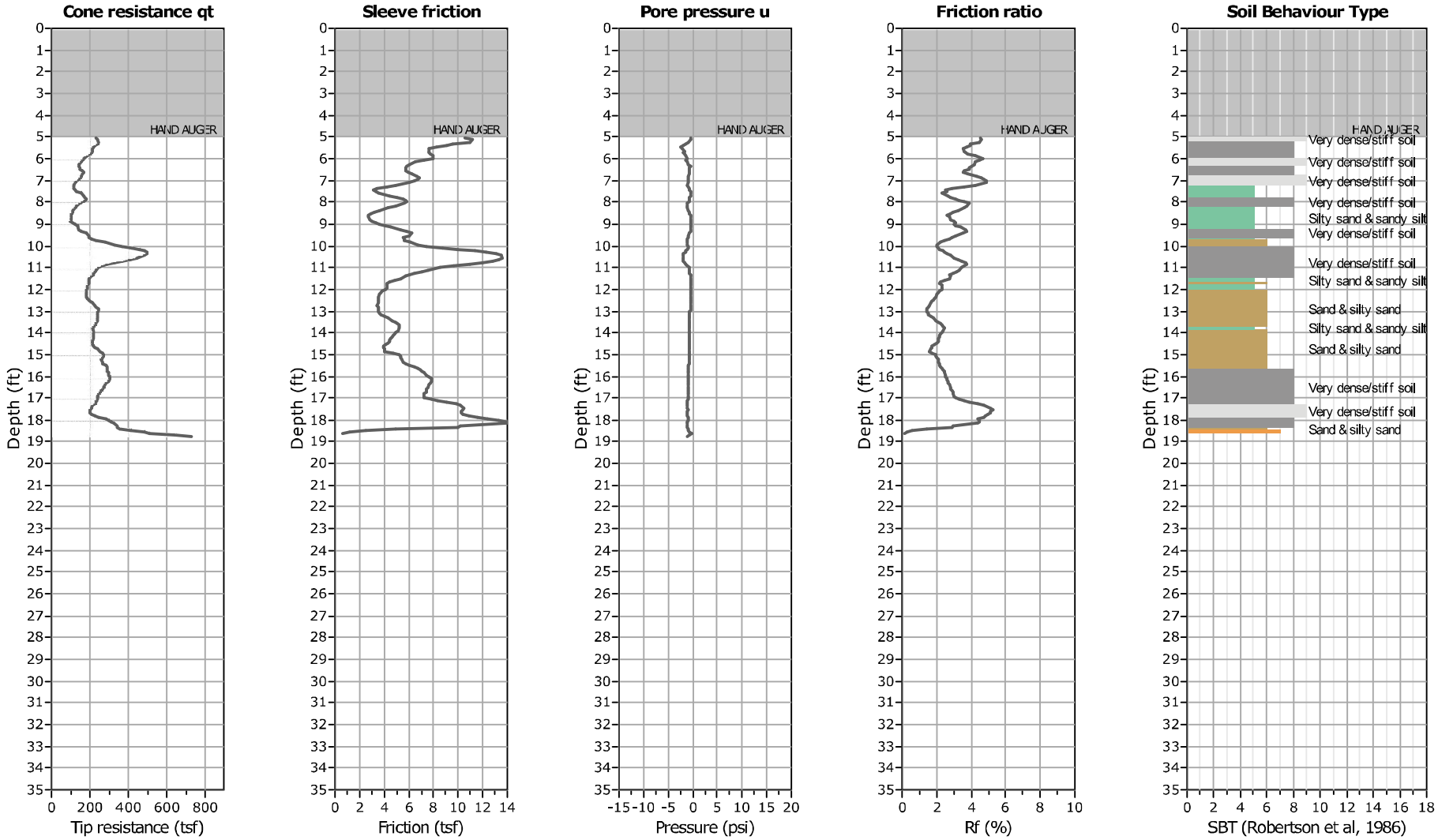
CPT: CPT-8

Project: **Geocon West/University of California, Los Angeles**
Location: **De Neve Dr. Los Angeles, CA**

Total depth: 18.75 ft, Date: 4/21/2014
Cone Type: Vertek



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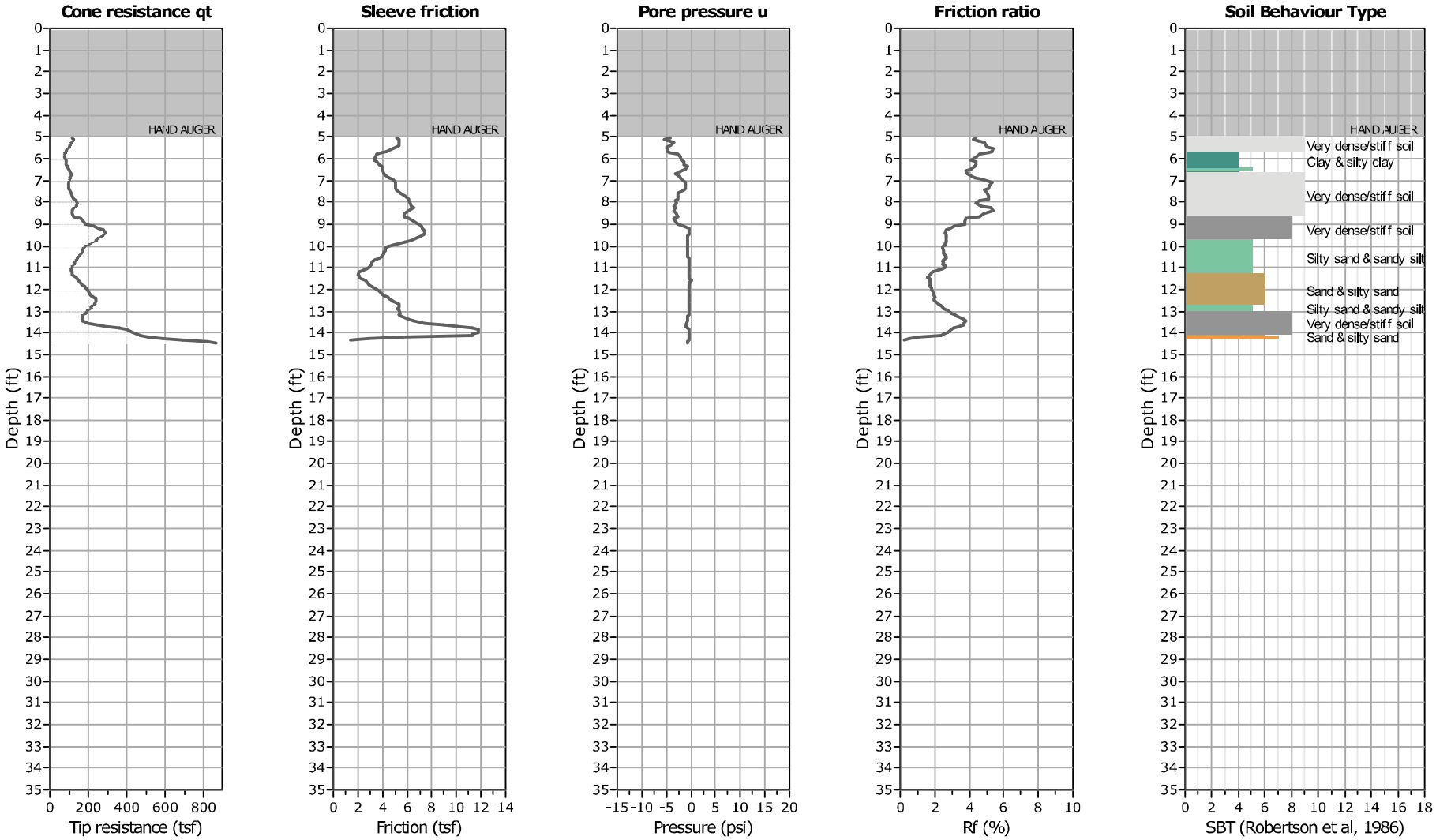
CPT: CPT-9

Project: **Geocon West/University of California, Los Angeles**
Location: **De Neve Dr. Los Angeles, CA**

Total depth: 14.47 ft, Date: 4/21/2014
Cone Type: Vertek



PRELIMINARY GEOTECHNICAL INVESTIGATION

PROPOSED STUDENT HOUSING DEVELOPMENT
900 WEYBURN PLACE
LOS ANGELES, CALIFORNIA

GEOCON
WEST, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

UCLA CAPITAL PROGRAMS
LOS ANGELES, CALIFORNIA

PROJECT NO. A9060-06-11

DECEMBER 23, 2016

GEOCON
WEST, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. A9060-06-11
December 23, 2016

Mr. Eric Heggen
UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, California 90095

Subject: PRELIMINARY GEOTECHNICAL INVESTIGATION
PROPOSED STUDENT HOUSING DEVELOPMENT
900 WEYBURN PLACE, LOS ANGELES, CALIFORNIA

Dear Mr. Heggen:

In accordance with your authorization of our proposal dated August 19, 2016, we have performed a preliminary geotechnical investigation for the proposed student housing development located at 900 Weyburn Place in the City of Los Angeles, California. The accompanying report presents the findings of our study, and our conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction. Based on the results of our investigation, it is our opinion that the site can be developed as proposed, provided the recommendations of this report are followed and implemented during design and construction.

The primary intent of this report is to address the potential geologic hazards and geotechnical conditions that could impact site development and to provide preliminary recommendations. Additional analyses will be required in order to provide comprehensive geotechnical recommendations for design and construction.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned.

Very truly yours,

GEOCON WEST, INC.

Harry Derkalousdian
PE 79694

Neal Berliner
GE 2576

Susan F. Kirkgard
CEG 1754

(EMAIL) Addressee

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PRELIMINARY GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a preliminary geotechnical investigation for the proposed student housing development located at 900 Weyburn Place in the City of Los Angeles, California (see Vicinity Map, Figure 1). The purpose of the investigation was to evaluate subsurface soil and geologic conditions underlying the site and, based on conditions encountered, to provide conclusions and recommendations pertaining to the geotechnical aspects of design and construction. Due to the preliminary nature of the project at this time, the primary intent of this report is to address the potential geologic hazards and geotechnical conditions that could impact site development and to provide preliminary recommendations. Additional analyses will be required in order to provide comprehensive geotechnical recommendations for design and construction.

The scope of this investigation included a site reconnaissance, field exploration, laboratory testing, engineering analysis, and the preparation of this report. The site was explored on November 2 through November 4, 2016, by excavating a total of eight borings. Six 8-inch diameter borings were excavated to depths of approximately 35½ to 70½ feet below the existing ground surface utilizing a truck-mounted hollow-stem auger drilling machine. Two 4-inch diameter borings were excavated to depths of approximately 13 to 20 feet below the existing ground surface utilizing hand auger equipment and hand tools. The approximate locations of the exploratory borings are depicted on the Site Plan (see Figure 2). A detailed discussion of the field investigation, including boring logs, is presented in Appendix A.

Laboratory tests were performed on selected soil samples obtained during the investigation to determine pertinent physical and chemical soil properties. Appendix B presents a summary of the laboratory test results.

The recommendations presented herein are based on analysis of the data obtained during the investigation and our experience with similar soil and geologic conditions. References reviewed to prepare this report are provided in the *List of References* section.

If project details vary significantly from those described herein, Geocon should be contacted to determine the necessity for review and possible revision of this report.

2. SITE AND PROJECT DESCRIPTION

The subject site is located at 900 Weyburn Place in the City of Los Angeles, California. The site is a rectangular-shaped parcel and is currently occupied by several one- and two-story school structures. The site is bounded by a grass field and alleyway to the north, by an alley (Weyburn Place) to the east, by a multi-family residential structure to the south, and by Weyburn Terrace to the west. The site slopes to the southwest with a maximum elevation difference across of the site of approximately 17 feet. Surface water drainage at the site appears to be by sheet flow along the existing ground contours toward the city streets and drainage devices. Vegetation on site consists of plants, shrubs, and trees located in isolated planter areas.

Based on the information provided by the Client, it is our understanding that the proposed development will consist of several eight- to fifteen-story student housing structures to be constructed at or near present site grade, or over a partial subterranean level. Due to the preliminary nature of the project, formal plans depicting the proposed development are not available for inclusion in this report. The existing site conditions are depicted on the Site Plan (see Figure 2). Due to the sloping nature of the site and lack of specific layout of proposed structures, additional exploration and/or a revised geotechnical investigation report may be necessary once final floor elevations are determined.

Based on the preliminary nature of the design at this time, wall and column loads were not available. It is anticipated that column loads for the proposed residential structures will be up to 2,000 kips, and wall loads will be up to 20 kips per linear foot.

Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

3. GEOLOGIC SETTING

The site is located on an older alluvial fan surface along the western edge of the Stone Canyon drainage, approximately 0.8 mile south of the base of the Santa Monica Mountains. The Santa Monica Mountains, formed during regional uplift, trend east-west on the north side of the Los Angeles Basin and constitute the northern basin boundary. Structurally, the Santa Monica Mountains are a broad west-plunging anticline. The south flank of the anticline is truncated by the Hollywood-Santa Monica Fault Zone which separates the mountain range from the Los Angeles Basin to the south. Rock types exposed in the eastern Santa Monica Mountains consist of metasedimentary rocks associated with the Jurassic age Santa Monica Slate, Cretaceous age igneous rocks, and Cretaceous age and Miocene age sedimentary rocks.

Regionally, the site is located in the Transverse Ranges geomorphic province near the boundary with the Peninsular Ranges geomorphic province. The Transverse Ranges geomorphic province is characterized by east-west trending geologic structures in contrast to northwest-trending geologic structures in the Peninsular Ranges geomorphic province. The boundary between the Peninsular Ranges and the Transverse Ranges geomorphic provinces in the site vicinity is the Santa Monica Fault Zone located approximately 0.9 mile south of the site.

4. SOIL AND GEOLOGIC CONDITIONS

Based on our field investigation and published geologic maps, the site is underlain by a thin veneer of artificial fill that was placed over Pleistocene age alluvial fan deposits. The older alluvium generally consists of sand, silt, and clay with zones of abundant slate gravel that were derived primarily from Stone Canyon drainage (California Geological Survey, 2010; Dibblee, 1991; Hoots, 1930). The older alluvium is underlain by sedimentary bedrock of the Miocene age Monterey Formation at depth (Dibblee, 1991). Detailed stratigraphic profiles of the soils encountered in our explorations are provided on the boring logs in Appendix A.

4.1 Artificial Fill

Artificial fill was encountered in our explorations at the site to a maximum depth of 5 feet. The fill generally consists of yellowish brown to brown sandy silt and silty sand. The fill is generally characterized as slightly moist and loose to medium dense or firm. The fill soils are likely related to construction activities at the site. Deeper or shallower fill may exist on site between excavations or in other portions of the site that were not directly explored.

4.2 Older Alluvium

The fill is underlain by Pleistocene age older alluvium that consists primarily of light brown to dark brown, yellowish brown, reddish brown or grayish brown clayey silt, sandy silt, silty sand, and sand with silt, poorly graded sand, and well-graded sand with various amounts of gravel. The older alluvium is characterized as slightly moist to wet and firm to hard or medium dense to very dense.

5. GROUNDWATER

Review of the Seismic Hazard Zone Report for the Beverly Hills Quadrangle (California Division of Mines and Geology [CDMG], 1998), the historically highest groundwater level in the area is approximately 30 feet beneath the ground surface. Groundwater information presented in this document is generated from data collected in the early 1900's to the late 1990s. Based on current groundwater basin management practices, it is unlikely that groundwater levels will ever exceed the historic high levels.

Groundwater was encountered in boring B1 drilled on November 2, 2016 at a depth of 60.7 feet below the existing ground surface. Considering the historic high groundwater level and the depth to groundwater encountered in our borings, it is not likely that groundwater will be encountered during construction. However, if subterranean levels are planned or if the groundwater levels rise to historic high levels, there is a potential for groundwater to impact the proposed development. Also, it is not uncommon for groundwater levels to vary seasonally or for groundwater seepage conditions to develop where none previously existed, especially in impermeable fine-grained soils which are heavily irrigated or after seasonal rainfall. In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the immediate site vicinity. Proper surface drainage of irrigation and precipitation will be critical for future performance of the project. Recommendations for drainage are provided in the S*urface Drainage* section of this report (see Section 7.22).

6. GEOLOGIC HAZARDS

6.1 Surface Fault Rupture

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (CGS, formerly known as CDMG) for the Alquist-Priolo Earthquake Fault Zone Program (Bryant and Hart, 2007). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a state-designated Alquist-Priolo Earthquake Fault Zone (CGS, 2016) or a city-designated Preliminary Fault Rupture Study Area (City of Los Angeles, 2016) for surface fault rupture hazards. No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low. However, the site is located in the seismically active Southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults. The faults in the vicinity of the site are shown in Figure 3, Regional Fault Map.

The nearest surface trace of an active fault to the site is the Santa Monica Fault located approximately 0.9 mile to the south (Ziony and Jones, 1989). Other nearby active faults are the Newport-Inglewood Fault Zone, the Hollywood Fault, the Malibu Coast Fault, the Raymond Fault, the Verdugo Fault, and the Palos Verdes Hills Fault located approximately 1.8 miles northeast, 2.0 miles northeast, 6.3 miles west, 13.2 miles northeast, 13.4 miles northeast, and 17 miles south-southwest of the site, respectively (Ziony and Jones, 1989). The active San Andreas Fault Zone is located approximately 38 miles northeast of the site (Ziony and Jones, 1989).

The closest potentially active fault to the site is the Overland Fault located approximately 2.4 miles to the southeast (Ziony and Jones, 1989). Other nearby potentially active faults are the Charnock Fault and the MacArthur Park Fault located approximately 3.8 miles south and 9.6 miles east of the site, respectively (Ziony and Jones, 1989).

Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3.0 kilometers. The October 1, 1987 M_w 5.9 Whittier Narrows earthquake and the January 17, 1994 M_w 6.7 Northridge earthquake were a result of movement on the Puente Hills Blind Thrust and the Northridge Thrust, respectively. These thrust faults and others in the Los Angeles area are not exposed at the surface and do not present a potential surface fault rupture hazard at the site; however, these deep thrust faults are considered active features capable of generating future earthquakes that could result in moderate to significant ground shaking at the site.

6.2 Seismicity

As with all of Southern California, the site has experienced historic earthquakes from various regional faults. The seismicity of the region surrounding the site was formulated based on research of an electronic database of earthquake data. The epicenters of recorded earthquakes with magnitudes equal to or greater than 5.0 in the site vicinity are depicted on Figure 4, Regional Seismicity Map. A partial list of moderate to major magnitude earthquakes that have occurred in the Southern California area within the last 100 years is included in the following table.

LIST OF HISTORIC EARTHQUAKES

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
San Jacinto-Hemet area	April 21, 1918	6.8	86	ESE
Near Redlands	July 23, 1923	6.3	69	E
Long Beach	March 10, 1933	6.4	41	SE
Tehachapi	July 21, 1952	7.5	72	NW
San Fernando	February 9, 1971	6.6	24	N
Whittier Narrows	October 1, 1987	5.9	21	E
Sierra Madre	June 28, 1991	5.8	29	ENE
Landers	June 28, 1992	7.3	115	E
Big Bear	June 28, 1992	6.4	93	E
Northridge	January 17, 1994	6.7	11	NW
Hector Mine	October 16, 1999	7.1	130	ENE

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the proposed structures are designed and constructed in conformance with current building codes and engineering practices.

6.3 Ground Motion Hazard Analysis

Ground motion hazard analyses were performed in accordance with ASCE 7-10 and Section 1613 of the 2016 CBC utilizing the computer program EZFRISK (version 7.65) in conjunction with data from the U.S. Seismic Design Maps web application provided by the USGS.

6.3.1 Probabilistic Seismic Hazard Analysis

The probabilistic Maximum Considered Earthquake (MCE_R) response spectrum consists of the spectral response accelerations which are expected to achieve a 1 percent probability of collapse within a 50-year period, evaluated at 5 percent damping. The procedure described in ASCE 7-10 Section 21.2.1.1 as Method 1 was used to evaluate the probabilistic response spectrum.

The spectral response accelerations having a 2 percent chance of exceedance in 50 years were evaluated at 5 percent damping. The probabilistic analysis was performed using the ground motion prediction equations (GMPEs) of Abrahamson and Silva (2008) NGA MRC (next generation attenuation, maximum rotated component), Boore and Atkinson (2008) NGA USGS 2008 MRC, Campbell-Bozorgnia (2008) NGA USGS 2008 MRC, and Chiou-Youngs (2007) NGA USGS 2008 MRC. Each GMPE was assigned an equal weight and the maximum rotated component of ground motion derived from the relationships was evaluated. It is our opinion that the use of these four GMPEs is appropriate for the subject site.

The probabilistic analysis was performed by evaluating the ground motions generated by active faults within a 120 mile (200 kilometer) radius of the site. The soil underlying the site was modeled with a Site class located on the boundary of Site Classes “C” and “D”. This is based on the relatively dense nature of the older alluvial deposits, as well as information available from the Community Velocity Model (CVM) Version 4 developed by Southern California Earthquake Data Center (SCEDC). An average shear wave velocity (V_S30) of 360 meters per second was used for the analysis.

The GMPE of Campbell and Borzorgnia requires that the depth to where the shear wave velocity reaches 2.5 kilometers per second (Z2.5) be defined. Additionally, the GMPE of Abrahamson and Silva requires that the depth to where the shear wave velocity reaches 1 kilometer per second (Z1.0) be defined. The values of Z2.5 and Z1.0 were estimated using data from the Community Velocity Model (CVM) Version 4 developed by Southern California Earthquake Data Center (SCEDC). The values of Z2.5 and Z1.0 used in the analysis are 1.04 kilometers and 310 meters, respectively.

According to ASCE 7-10 Section 21.2.1.1 Method 1, the probabilistic MCE_R spectral response accelerations may be determined as the product of the spectral response accelerations having a 2 percent chance of exceedance in 50 years and the risk coefficient C_R. The value of C_R at 0.2 seconds (C_{RS}) and 1 second (C_{R1}) were determined from ASCE 7-10 Figures 22-17 and 22-18, respectively. At spectral response accelerations less than or equal to 0.2 seconds, the value of C_R was taken as C_{RS} and at spectral response accelerations greater than or equal to 1.0 seconds the value of C_R was taken as C_{R1}. Liner interpolation was used to evaluate the values of C_R between 0.2 and 1.0 seconds.

6.3.2 Deterministic Seismic Hazard Analysis

The deterministic analysis was performed using the same GMPEs as the probabilistic analysis, as well as the same active faults within a within a 120 mile (200 kilometer) radius of the site and the same values of Z1.0 and Z2.5. The 84th percentile of the maximum rotated component of ground motion derived from the GMPEs was evaluated.

Based on the results of the analysis, the fault source resulting in the highest spectral accelerations from 0 to 4 seconds would be a magnitude 7.4 event on the Santa Monica fault.

The 84th percentile of the maximum rotated component of ground motion was compared to the Deterministic Lower Limit MCE_R response spectrum, and the maximum values taken as the deterministic MCE_R response spectrum.

6.3.3 Site-Specific Response Spectrum

The lesser of the probabilistic and deterministic MCE_R response spectrums is the Site-Specific MCE_R. Two-thirds of the Site-Specific MCE_R is the Design Earthquake (DE) Response Spectrum, provided the results are not less than 80 percent of the General Design Response Spectrum determined by ASCE 7-10 Section 11.4.5.

Graphical representations of the analyses are presented on Figures 5 and 6. The Site-Specific Design Earthquake response spectrum at 5 percent damping is presented on Figure 6 and as Table 1.

6.3.4 Mapped Acceleration Parameters

The following table summarizes the mapped acceleration parameters obtained from the 2016 California Building Code (CBC; Based on the 2015 International Building Code [IBC] and ASCE 7-10), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The data was calculated using the computer program U.S. Seismic Design Maps, provided by the USGS. The short spectral response uses a period of 0.2 second.

MAPPED SPECTRAL ACCELERATIONS

Parameter	Value	2016 CBC Reference
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	2.244g	Figure 1613.3.1(1)
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.823g	Figure 1613.3.1(2)

6.3.5 Site-Specific Seismic Design Criteria

Based the site-specific ground motion hazard analysis performed, and in accordance with the ASCE 7-10 Section 21.4, site-specific seismic design parameters shall be derived using the results of the site-specific ground motion hazard analysis.

The parameter S_{DS} shall be obtained from the site-specific spectra at a period of 0.2 second and not less than 90 percent of the peak spectra acceleration at any period larger than 0.2 second. The parameter S_{D1} shall be taken as the greater of the site-specific spectral acceleration at a period of 1.0 second or twice the spectral acceleration at a period of 2 seconds (whichever is greater). The values of S_{MS} and S_{M1} shall be taken as 1.5 times the site-specific values of S_{DS} and S_{D1}. The site-specific seismic design parameters shall not be less than 80 percent of the general seismic design values determined by ASCE 7-10 Section 11.4.

The following table presents the site-specific seismic design parameters based on the site-specific ground motion hazard analysis.

SITE-SPECIFIC SEISMIC DESIGN PARAMETERS

Parameter	Value
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	2.172g
Site Class Modified MCE_R Spectral Response Acceleration – (1 sec), S_{M1}	1.383g
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.448g
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.922g

6.3.6 Site-Specific Peak Ground Acceleration

The site-specific Maximum Considered Earthquake (MCE_G) geometric mean peak ground acceleration was evaluated in accordance with ASCE 7-10 Section 21.5.

The probabilistic geometric mean peak ground acceleration was evaluated using the computer program EZFrisk. The analysis was performed using the GMPE of Abrahamson and Silva (2008) NGA (next generation attenuation), Boore and Atkinson (2008) NGA USGS 2008, Campbell-Bozorgnia (2008) NGA USGS 2008, and Chiou-Youngs (2007) NGA USGS 2008. Each GMPE was assigned an equal weight. The analysis used the same faults, shear wave velocity, and values of Z2.5 and Z1.0 as described above.

The probabilistic geometric mean peak ground acceleration (probabilistic MCE_G) was evaluated at a 2 percent probability of exceedance with a 50-year period.

The deterministic geometric mean peak ground acceleration (deterministic MCE_G) was evaluated as the 84th percentile geometric mean peak ground acceleration. The deterministic MCE_G shall not be less than $0.5F_{PGA}$, where F_{PGA} is determined from ASCE 7-10 Table 11.8-1 with the value of PGA taken as 0.5g.

The site-specific MCE_G peak ground acceleration is taken as the lesser of the probabilistic and deterministic MCE_G, provided the value is not less than 80 percent of the value of PGA_M as determined by ASCE 7-10 Equation 11.8.1.

ASCE 7-10 SITE-SPECIFIC PEAK GROUND ACCELERATION

Parameter	Value	ASCE 7-10 Reference
Site-Specific MCE_G Peak Ground Acceleration, PGA_M	0.905g	Section 21.5

6.4 Liquefaction Potential

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The current standard of practice, as outlined in the "Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California" and "Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California" requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction.

The State of California Seismic Hazard Zone Map for the Beverly Hills Quadrangle (1999) indicates that the site is not located in an area designated as "liquefiable." In addition, a review of the County of Los Angeles Safety Element (Leighton, 1990) indicates that the site is not located within an area identified as having a potential for liquefaction. As stated previously, the soils encountered at the site are Pleistocene age older alluvial fan deposits (CGS, 2010; Dibblee, 1991); these older deposits are not prone to liquefaction. Based on these considerations, it is our opinion that the potential for liquefaction and associated ground deformations at the site is considered very low.

6.5 Slope Stability

Topography at the site ranges from approximately Elevation 386 MSL adjacent to Weyburn Place to Elevation 369 MSL adjacent to Weyburn Terrace and the site is located within a city of Los Angeles Hillside Grading Area. However, the site is not located in an area identified as having a potential for slope instability (City of Los Angles, 1996; Leighton, 1990). Also, the site is not within an area identified as having a potential for seismic slope instability (CDMG, 1999). There are no known landslides near the site, nor is the site in the path of any known or potential landslides. Landslides or unstable slopes are not considered a potential hazard at the site.

6.6 Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. The Safety Element of the County of Los Angeles General Plan (1990) indicates that the site is located within the inundation boundary of Stone Canyon Reservoir. However, this dam, as well as others in California are continually monitored by various governmental agencies (such as the State of California Division of Safety of Dams and the U.S. Army Corps of Engineers) to guard against the threat of dam failure. Current design, construction practices, and ongoing programs of review, modification, or total reconstruction of existing dams are intended to ensure that all dams are capable of withstanding the maximum considered earthquake (MCE) for the site. Therefore, the potential for inundation at the site as a result of an earthquake-induced dam failure is considered low.

6.7 Tsunamis, Seiches, and Flooding

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. Therefore, flooding resulting from a seismically-induced seiche is considered unlikely.

The site is within an area of minimal flooding (Zone X) as defined by the Federal Emergency Management Agency (LACDPW, 2016b).

6.8 Oil Fields & Methane Potential

Based on a review of the California Division of Oil, Gas and Geothermal Resources (DOGGR) Oil and Gas Well Location Map W1-5, the site is not located within the limits of an oilfield and oil or gas wells are not located in the immediate site vicinity. However, due to the voluntary nature of record reporting by the oil well drilling companies, wells may be improperly located or not shown on the location map and undocumented wells could be encountered during construction. Any wells encountered during construction will need to be properly abandoned in accordance with the current requirements of the DOGGR.

The site is located the site is located in close proximity to the northern boundary of the Sawtelle Oil Field and is located within the boundaries of a city-designated Methane Zone (City of Los Angeles, 2016). A methane study may be required for future site development. We recommend that a qualified methane consultant be retained to perform the study and provide mitigation measures as necessary.

6.9 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

7.1.1 It is our opinion that neither soil nor geologic conditions were encountered during the investigation that would preclude construction of the proposed project provided the recommendations presented herein are followed and implemented during design and construction.

7.1.2 Up to five feet of existing artificial fill was encountered during site exploration. The existing fill encountered is believed to be the result of past grading and construction activities at the site. Deeper fill may exist in other areas of the site that were not directly explored. Future demolition of existing structures that occupy the site will likely disturb the upper soils. The results of laboratory testing indicate that the existing fill materials and upper alluvial soils are not considered suitable for support of proposed building foundations or floor slabs. However, the existing fill is considered suitable for reuse as engineered fill provided the recommendations in the G*rading* section of this report are followed (see Section 7.4).

7.1.3 The older alluvial soils underlying the site are considered competent for foundation and slab support. If these soils are not directly exposed at the finish grade elevation, or if these soils are disturbed from demolition activities, excavation and compaction of all artificial fill and unsuitable or disturbed alluvial soils will be required for foundation and slab support. Geocon will provide oversight and direction during excavation and grading. Based on these considerations, the proposed structures may be supported on a conventional foundation system deriving support in the competent older alluvial soils.

7.1.4 The proposed structures may be supported on a conventional shallow spread foundation system deriving support in newly placed engineered fill and/or dense undisturbed old alluvium. It is the intent of the Geotechnical Engineer to allow foundations for the structures to derive support in newly placed engineered fill and/or dense undisturbed old alluvium, if conditions warrant such an occurrence.

7.1.5 Once proposed building loads become available and elevations are established, additional analyses will be required to evaluate the anticipated total and differential settlements between the foundation elements. Updated foundation design recommendations will be provided as necessary under separate cover.

7.1.6 All excavations must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon). Prior to placing any fill, the excavation bottom must be proof-rolled with heavy equipment in the presence of the Geotechnical Engineer (a representative of Geocon West, Inc.).

7.1.7 Due to the granular nature of the soils and potential for caving, the contractor should be prepared to form foundation excavations into granular alluvial soils at the excavation bottom, if necessary.

7.1.8 Concrete slabs-on-grade may derive support on newly placed engineered fill and/or directly on undisturbed alluvial soils. Any soils that are disturbed should be properly compacted for slab support. Where necessary, the existing artificial fill and alluvial soils are suitable for re-use as an engineered fill provided the procedures outlined in the Grading section of this report are followed (see Section 7.4).

7.1.9 Excavations on the order of 32 feet in vertical height along the property line may be necessary for construction of proposed structures. Due to the depth of the excavation and the proximity to the property lines, city streets and adjacent offsite structures, excavation of proposed structures will require sloping and/or shoring measures in order to provide a stable excavation. Where shoring is required it is recommended that a soldier pile shoring system be utilized. In addition, where the proposed excavation will be deeper than and adjacent to an offsite structure, the proposed retaining wall and shoring systems should be designed to resist the surcharge imposed by the adjacent offsite structure. Recommendations for shoring are provided in Section 7.16.

7.1.10 Due to the nature of the proposed design and possible subterranean levels, waterproofing of subterranean walls and slabs is suggested. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.1.11 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied-in to the proposed structure, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill. Where excavation and compaction cannot be performed, such as adjacent to property lines, foundations may be deepened to derive support in undisturbed competent alluvial soils and must be observed and approved by a Geocon representative. If the soils exposed in the excavation bottom are soft, compaction of the soft soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

7.1.12 Based on the results of percolation testing performed at the site, a stormwater infiltration system is not recommended for this project. It is recommended that stormwater be retained, filtered, and discharged in accordance with the requirements of the local governing agency.

7.1.13 Once the design and foundation loading configuration for the proposed structures proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Based on the final foundation loading configurations, the potential for settlement should be re-evaluated by this office.

7.1.14 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

7.2 Soil and Excavation Characteristics

7.2.1 The in-situ soils can be excavated with moderate effort using conventional excavation equipment. Some caving should be anticipated in unshored excavations, especially where granular soils are encountered. Due to the granular nature of the soils and potential for caving, the contractor should be prepared to form foundation excavations into granular alluvial soils at the excavation bottom, if necessary.

7.2.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly sloped, shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of adjacent existing improvements.

7.2.3 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping and possibly shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 7.15).

7.2.4 The soils encountered at proposed foundation elevations during the investigation are considered to have a “low” (EI=23, 24, and 40) expansive potential and are classified as “expansive” based on the 2016 California Building Code (CBC) Section 1803.5.3. Recommendations presented herein assume that the building foundations and slabs will derive support in these materials.

7.3 Minimum Resistivity, pH and Water-Soluble Sulfate

7.3.1 Potential of Hydrogen (pH) and resistivity testing, as well as chloride content testing, were performed on representative samples of on-site soil to generally evaluate the corrosion potential to surface utilities. The tests were performed in accordance with California Test Method Nos. 643 and 422 and indicate that the soils range from "moderately corrosive" to "severely corrosive" with respect to corrosion of buried ferrous metals on site. The results are presented in Appendix B (Figure B11) and should be considered for design of underground structures. Due to the corrosive potential of the soils, it is recommended that ABS pipes are utilized in lieu of cast-iron for subdrains and retaining wall drains.

7.3.2 Laboratory tests were performed on representative samples of the on-site soil to measure the percentage of water-soluble sulfate content. Results from the laboratory water-soluble sulfate tests are presented in Appendix B (Figure B11) and indicate that the on-site soil possess a "negligible" sulfate exposure to concrete structures as defined by 2016 CBC Section 1904 and ACI 318-11 Section 4.2 and 4.3.

7.3.3 Geocon West, Inc. does not practice in the field of corrosion engineering and mitigation. If corrosion sensitive improvements are planned, it is recommended that a corrosion engineer be retained to evaluate corrosion test results and incorporate the necessary precautions to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soils.

7.4 Grading

7.4.1 Grading is anticipated to include excavation of site soils for foundations, utility trenches, and the subterranean portion of proposed structures, as well as placement of backfill for walls and trenches.

7.4.2 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill encountered during exploration is suitable for re-use as an engineered fill, provided any encountered oversize material (greater than 6 inches) and any encountered deleterious debris are removed.

7.4.3 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer, and geotechnical engineer in attendance. Special soil handling requirements can be discussed at that time.

7.4.4 Grading should commence with the removal of all existing vegetation and existing improvements from the area to be graded. Deleterious debris such as wood and root structures should be exported from the site and should not be mixed with the fill soils. Asphalt and concrete should not be mixed with the fill soils unless approved by the Geotechnical Engineer. All existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein. Once a clean excavation bottom has been established it must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.).

7.4.5 The older alluvial soils underlying the site are considered competent for foundation and slab support. If these soils are not directly exposed at the finish grade elevation, or if these soils are disturbed from demolition activities, excavation and compaction of all artificial fill and unsuitable or disturbed alluvial soils will be required for foundation and slab support. Geocon will provide oversight and direction during excavation and grading. The limits of existing fill and/or soft or disturbed soil removal will be verified by the Geocon representative during site grading activities.

7.4.6 Subsequent to the recommended grading, the proposed structures may be supported on a conventional shallow spread foundation system deriving support in newly placed engineered fill and/or dense undisturbed old alluvium. It is the intent of the Geotechnical Engineer to allow foundations for the structures to derive support in newly placed engineered fill and/or dense undisturbed old alluvium, if conditions warrant such an occurrence.

7.4.7 All fill and backfill soils should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to optimum moisture content, and properly compacted to a minimum 90 percent of the maximum dry density in accordance with ASTM D 1557 (latest edition).

7.4.8 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be structurally supported by the proposed buildings, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and compaction cannot be performed, such as adjacent to property lines, foundations may be deepened to maintain a minimum 12 inch embedment into undisturbed competent alluvial soils and must be observed and approved by a Geocon representative. If the alluvial soils exposed in the excavation bottom are loose or disturbed, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

7.4.9 Although not anticipated for this project, all imported fill shall be observed, tested, and approved by Geocon West, Inc. prior to bringing soil to the site. Rocks larger than 6 inches in diameter shall not be used in the fill. If necessary, import soils used as structural fill should have an expansion index less than 20 and soil corrosivity properties that are equally or less detrimental to that of the existing onsite soils (see Figure B11).

7.4.10 Utility trenches should be properly backfilled in accordance with the requirements of the Green Book (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least one foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of Geocon). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of minimum 2-sack slurry is also acceptable as backfill. Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon).

7.4.11 All trench and foundation excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding materials, fill, steel, gravel or concrete.

7.5 Foundation Design

7.5.1 Subsequent to the recommended grading, a conventional shallow spread foundation system may be utilized for support of proposed structures provided foundations derive support in newly placed engineered fill and/or dense undisturbed old alluvium.

7.5.2 Due to the granular nature of the soils and potential for caving, the contractor should be prepared to form foundation excavations into granular alluvial soils at the excavation bottom, if necessary.

7.5.3 Continuous footings may be designed for an allowable bearing capacity of 3,000 pounds per square foot (psf), and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

7.5.4 Isolated spread foundations may be designed for an allowable bearing capacity of 3,500 psf, and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

7.5.5 The allowable soil bearing pressure above may be increased by 200 psf and 400 psf for each additional foot of foundation width and depth, respectively, up to a maximum allowable soil bearing pressure of 5,400 psf.

7.5.6 The allowable bearing pressures may be increased by one-third for transient loads due to wind or seismic forces.

7.5.7 Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Foundation dimensions and allowable bearing pressures may require adjustment to minimize potential differential settlements.

7.5.8 Continuous footings should be reinforced with a minimum of four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. The reinforcement for isolated spread footings should be designed by the project structural engineer.

7.5.9 If depth increases are utilized for the exterior wall footings, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

7.5.10 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.

7.5.11 No special subgrade presaturation is required prior to placement of concrete. However, the foundation subgrade should be sprinkled as necessary to maintain a moist condition at the time of concrete placement.

7.5.12 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.

7.5.13 This office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

7.6 Foundation Settlement

7.6.1 The maximum expected total settlement for a structure supported on a conventional foundation system deriving support in the recommended bearing material is estimated to be approximately 1¼ inch and occur below the heaviest loaded structural element. Settlement of the foundation system is expected to occur on initial application of loading. It is anticipated that the maximum settlement will occur closer to Weyburn Place. Differential settlement cannot be determined until building loads and elevations are provided due to the potential for overburden removal.

7.6.2 Once the design and foundation loading configurations for the proposed structures proceeds to a more finalized plan, the estimated settlements presented in this report should be reviewed and revised, if necessary. Foundation dimensions and allowable bearing pressures may require adjustment to minimize potential differential settlements. The potential for settlement should be reevaluated by this office.

7.7 Miscellaneous Foundations

7.7.1 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied-in to the proposed structure, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill. Where excavation and compaction cannot be performed, such as adjacent to property lines, foundations may be deepened to maintain a minimum 12-inch embedment into undisturbed competent alluvial soils and must be observed and approved by a Geocon representative. If the soils exposed in the excavation bottom are loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative. Miscellaneous foundations may be designed for a bearing value of 1,500 psf, and should be a minimum of 12 inches in width, 24 inches in depth below the lowest adjacent grade and 12 inches into the recommended bearing material. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.

7.7.2 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated.

7.8 Lateral Design

7.8.1 Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. An allowable coefficient of friction of 0.35 may be used with the dead load forces in the undisturbed alluvial soils and newly compacted engineered fill.

7.8.2 Passive earth pressure for the sides of foundations and slabs poured against undisturbed alluvial soils and newly compacted engineered fill may be computed as an equivalent fluid having a density of 230 pcf with a maximum earth pressure of 2,300 pcf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

7.9 Concrete Slabs-On-Grade

7.9.1 Unless specifically evaluated and designed by a qualified structural engineer, the slab-on-grade subject to vehicle loading should be a minimum of 6 inches of concrete reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions and positioned vertically near the slab midpoint. The concrete slab-on-grade may bear directly on the undisturbed alluvial soils found at the excavation bottom. Any disturbed soils should be properly compacted for slab support. The ramp may derive support in the undisturbed alluvial soils and/or engineered fill. compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

7.9.2 Slabs-on-grade at the ground surface that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed directly beneath the slab. The vapor retarder and acceptable permeance should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06) and should be installed in general conformance with ASTM E 1643 (latest edition) and the manufacturer's recommendations. A minimum thickness of 15 mils extruded polyolefin plastic is recommended; vapor retarders which contain recycled content or woven materials are not recommended. The vapor retarder should have a permeance of less than 0.01 perms demonstrated by testing before and after mandatory conditioning. The vapor retarder should be installed in direct contact with the concrete slab with proper perimeter seal. If the California Green Building Code requirements apply to this project, the vapor retarder should be underlain by 4 inches of clean aggregate. It is important that the vapor retarder be puncture resistant since it will be in direct contact with angular gravel. As an alternative to the clean aggregate suggested in the California Green Building Code, it is our opinion that

the concrete slab-on-grade may be underlain by a vapor retarder over 4 inches of clean sand (sand equivalent greater than 30), since the sand will serve a capillary break and will minimize the potential for punctures and damage to the vapor barrier.

7.9.3 Due to the nature of the proposed design and intent for a subterranean level, waterproofing of subterranean walls and slabs is suggested. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.9.4 For seismic design purposes, a coefficient of friction of 0.35 may be utilized between concrete slabs and subgrade soils without a moisture barrier, and 0.15 for slabs underlain by a moisture barrier.

7.9.5 Exterior slabs, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Prior to construction of slabs, the upper 12 inches of subgrade should be moistened to optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Crack control joints should be spaced at intervals not greater than 10 feet and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. The project structural engineer should design construction joints as necessary.

7.9.6 The recommendations of this report are intended to reduce the potential for cracking of slabs due to settlement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

7.10 Retaining Walls

7.10.1 The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 30 feet. In the event that walls higher than 30 feet are planned, Geocon should be contacted for additional recommendations.

7.10.2 Retaining wall foundations may be designed in accordance with the recommendations provided in the *Foundation Design* sections of this report (see Section 7.5).

7.10.3 Retaining walls with a level backfill surface that are not restrained at the top should be designed utilizing a triangular distribution of pressure (active pressure). Restrained walls are those that are not allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, walls may be designed utilizing a triangular distribution of pressure (at-rest pressure). The table below presents recommended pressures to be used in retaining wall design, assuming that proper drainage will be maintained.

RETAINING WALL WITH LEVEL BACKFILL SURFACE

HEIGHT OF RETAINING WALL (Feet)	ACTIVE PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)	AT-REST PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)
Up to 10	30	50
11 to 20	40	60
21 to 30	46	67

7.10.4 The wall pressures provided above assume that the retaining wall will be properly drained preventing the buildup of hydrostatic pressure. If retaining wall drainage is not implemented, the equivalent fluid pressure to be used in design of undrained walls is 90 pcf. The value includes hydrostatic pressures plus buoyant lateral earth pressures.

7.10.5 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures and should be designed for each condition as the project progresses.

7.10.6 It is recommended that line-load surcharges from adjacent wall footings, use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.20 \times \left(\frac{z}{H}\right)}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.28 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

where x is the distance from the face of the excavation or wall to the vertical line-load, H is the distance from the bottom of the footing to the bottom of excavation or wall, z is the depth at which the horizontal pressure is desired, Q_L is the vertical line-load and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.10.7 It is recommended that vertical point-loads, from construction equipment outriggers or adjacent building columns use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.28 \times \left(\frac{z}{H}\right)^2}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.77 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)^2}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

then

$$\sigma'_H(z) = \sigma_H(z) cos^2(1.1\theta)$$

where x is the distance from the face of the excavation/wall to the vertical point-load, H is distance from the outrigger/bottom of column footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, Q_P is the vertical point-load, $\sigma_H(z)$ is the horizontal pressure at depth z, θ is the angle between a line perpendicular to the excavation/wall and a line from the point-load to location on the excavation/wall where the surcharge is being evaluated, and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.10.8 In addition to the recommended earth pressure, the upper 10 feet of the retaining wall adjacent to the street or driveway areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the wall due to normal street traffic. If the traffic is kept back at least ten feet from the wall, the traffic surcharge may be neglected.

7.10.9 Seismic lateral forces should be incorporated into the design as necessary, and recommendations for seismic lateral forces are presented below.

7.11 Dynamic (Seismic) Lateral Forces

7.11.1 The structural engineer should determine the seismic design category for the project in accordance with Section 1613 of the CBC. If the project possesses a seismic design category of D, E, or F, proposed retaining walls in excess of 6 feet in height should be designed with seismic lateral pressure (Section 1803.5.12 of the 2016 CBC).

7.11.2 A seismic load of 10 pcf should be used for design of walls that support more than 6 feet of backfill in accordance with Section 1803.5.12 of the 2016 CBC. The seismic load is applied as an equivalent fluid pressure along the height of the wall and the calculated loads result in a maximum load exerted at the base of the wall and zero at the top of the wall. This seismic load should be applied in addition to the active earth pressure. The earth pressure is based on half of two-thirds of PGA_M calculated from ASCE 7-10 Section 11.8.3.

7.12 Retaining Wall Drainage

7.12.1 Retaining walls should be provided with a drainage system extended at least two-thirds the height of the wall. At the base of the drain system, a subdrain covered with a minimum of 12 inches of gravel should be installed, and a compacted fill blanket or other seal placed at the surface (see Figure 7). The clean bottom and subdrain pipe, behind a retaining wall, should be observed by the Geotechnical Engineer (a representative of Geocon), prior to placement of gravel or compacting backfill.

7.12.2 As an alternative, a plastic drainage composite such as Miradrain or equivalent may be installed in continuous, 4-foot wide columns along the entire back face of the wall, at 8 feet on center. The top of these drainage composite columns should terminate approximately 18 inches below the ground surface, where either hardscape or a minimum of 18 inches of relatively cohesive material should be placed as a cap (see Figure 8). These vertical columns of drainage material would then be connected at the bottom of the wall to a collection panel or a one-cubic-foot rock pocket drained by a 4-inch subdrain pipe.

7.12.3 Subdrainage pipes at the base of the retaining wall drainage system should outlet to an acceptable location via controlled drainage structures.

7.12.4 Moisture affecting below grade walls is one of the most common post-construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.13 Elevator Pit Design

7.13.1 The elevator pit slab and retaining wall should be designed by the project structural engineer. Elevator pit walls may be designed in accordance with the recommendations in the *Foundation Design* and *Retaining Wall Design* section of this report (see Sections 7.5 and 7.10).

7.13.2 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent foundations and should be designed for each condition as the project progresses.

7.13.3 If retaining wall drainage is to be provided, the drainage system should be designed in accordance with the *Retaining Wall Drainage* section of this report (see Section 7.10).

7.13.4 Subdrainage pipes at the base of the retaining wall drainage system should outlet to a location acceptable to the building official.

7.13.5 It is suggested that the exterior walls and slab be waterproofed to prevent excessive moisture inside of the elevator pit. Waterproofing design and installation is not the responsibility of the geotechnical engineer.

7.14 Elevator Piston

7.14.1 If a plunger-type elevator piston is installed for this project, a deep drilled excavation will be required. It is important to verify that the drilled excavation is not situated immediately adjacent to a foundation or shoring pile, or the drilled excavation could compromise the existing foundation or pile support, especially if the drilling is performed subsequent to the foundation or pile construction.

7.14.2 Some caving may occur and the contractor should be prepared to use casing and should have it readily available at the commencement of drilling activities. Continuous observation of the drilling and installation of the elevator piston by the Geotechnical Engineer (a representative of Geocon West, Inc.) is required.

7.14.3 The annular space between the piston casing and drilled excavation wall should be filled with a minimum of 1½-sack slurry pumped from the bottom up. As an alternative, pea gravel may be utilized. The use of soil to backfill the annular space is not acceptable.

7.15 Temporary Excavations

7.15.1 Excavations on the order of 32 feet in height may be required for excavation and construction of subterranean portion of proposed structures. The excavations are expected to expose artificial fill and alluvial soils, which may be subject to excessive caving where granular soils are exposed. Vertical excavations up to five feet in height may be attempted where not surcharged by adjacent traffic or structures; however, the contractor should be prepared for caving sands in open excavations.

7.15.2 Vertical excavations greater than five feet will require sloping and/or shoring measures in order to provide a stable excavation. Where sufficient space is available, temporary unsurcharged embankments up to 12 feet high could be sloped back at a uniform 1:1 slope gradient or flatter. A uniform slope does not have a vertical portion. Where space is limited, shoring measures will be required. *Shoring* data is provided in Section 7.16 of this report.

7.15.3 Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Geocon personnel should inspect the soils exposed in the cut slopes during excavation so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

7.16 Shoring – Soldier Pile Design and Installation

7.16.1 The following information on the design and installation of shoring is preliminary. Review of the final shoring plans and specifications should be made by this office prior to bidding or negotiating with a shoring contractor.

7.16.2 One method of shoring would consist of steel soldier piles, placed in drilled holes and backfilled with concrete. Where maximum excavation heights are less than 12 feet the soldier piles are typically designed as cantilevers. Where excavations exceed 12 feet or are surcharged, soldier piles may require lateral bracing utilizing drilled tie-back anchors or raker braces to maintain an economical steel beam size and prevent excessive deflection. The size of the steel beam, the need for lateral bracing, and the acceptable shoring deflection should be determined by the project shoring engineer.

7.16.3 The design embedment of the shoring pile toes must be maintained during excavation activities. The toes of the perimeter shoring piles should be deepened to take into account any required excavations necessary for grading activities, foundations, and/or adjacent drainage systems.

7.16.4 Drilled cast-in-place soldier piles should be placed no closer than 3 diameters on center. The minimum diameter of the piles is 18 inches. Structural concrete should be used for the soldier piles below the excavation; lean-mix concrete may be employed above that level. As an alternative, lean-mix concrete may be used throughout the pile where the reinforcing consists of a wideflange section. The slurry must be of sufficient strength to impart the lateral bearing pressure developed by the wideflange section to the soil. For design purposes, an allowable passive value for the soils below the bottom plane of excavation may be assumed to be 230 psf per foot where in contact with alluvial soils. The allowable passive value may be doubled for isolated piles, spaced a minimum of twice the pile diameter. To develop the full lateral value, provisions should be implemented to assure firm contact between the soldier piles and the undisturbed alluvium.

7.16.5 Casing will likely be required since some caving may occur in the granular soils, and the contractor should have casing available prior to commencement of drilling activities. When casing is used, extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than five feet. Continuous observation of the drilling and pouring of the piles by the Geotechnical Engineer (a representative of Geocon West, Inc.), is required.

7.16.6 The frictional resistance between the soldier piles and retained soil may be used to resist the vertical component of the load. The coefficient of friction may be taken as 0.35 based on uniform contact between the steel beam and lean-mix concrete and alluvium. The portion of soldier piles below the plane of excavation may also be employed to resist the downward loads. The downward capacity may be determined using a frictional resistance of 600 psf.

7.16.7 Groundwater was not encountered during exploration; however, the contractor should be prepared for groundwater during pile installation should the need arise. Piles placed below the water level require the use of a tremie to place the concrete into the bottom of the hole. A tremie should consist of a rigid, water-tight tube having a diameter of not less than 6 inches with a hopper at the top. The tube should be equipped with a device that will close the discharge end and prevent water from entering the tube while it is being charged with concrete. The tremie should be supported so as to permit free movement of the discharge end over the entire top surface of the work and to permit rapid lowering when necessary to retard or stop the flow of concrete. The discharge end should be closed at the start of the work to

prevent water entering the tube and should be entirely sealed at all times, except when the concrete is being placed. The tremie tube should be kept full of concrete. The flow should be continuous until the work is completed and the resulting concrete seal should be monolithic and homogeneous. The tip of the tremie tube should always be kept about 5 feet below the surface of the concrete and definite steps and safeguards should be taken to insure that the tip of the tremie tube is never raised above the surface of the concrete.

7.16.8 A special concrete mix should be used for concrete to be placed below water. The design should provide for concrete with an unconfined compressive strength psi of 1,000 pounds per square inch (psi) over the initial job specification. An admixture that reduces the problem of segregation of paste/aggregates and dilution of paste should be included. The slump should be commensurate to any research report for the admixture, provided that it should also be the minimum for a reasonable consistency for placing when water is present.

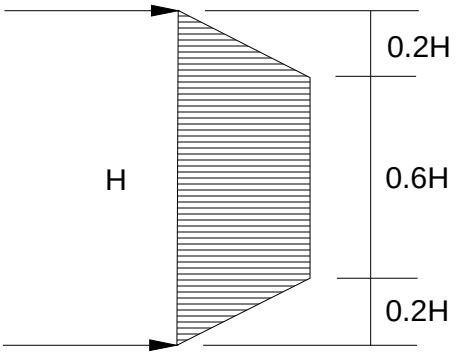
7.16.9 Due to the nature of the site soils, it is expected that continuous lagging between soldier piles will be required. However, it is recommended that the exposed soils be observed by the Geotechnical Engineer (a representative of Geocon West, Inc.), to verify the presence of any cohesive soils and the areas where lagging may be omitted.

7.16.10 The time between lagging excavation and lagging placement should be as short as possible. Soldier piles should be designed for the full-anticipated pressures. Due to arching in the soils, the pressure on the lagging will be less. It is recommended that the lagging be designed for the full design pressure but be limited to a maximum of 400 psf.

7.16.11 For the design of shoring, it is recommended that an equivalent fluid pressure based on the following table, be utilized for design. A diagram depicting the trapezoidal pressure distribution of lateral earth pressure is provided below the table.

HEIGHT OF SHORING (FEET)	**EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot) (ACTIVE PRESSURE)**	**EQUIVALENT FLUID PRESSURE (Pounds Per Square Foot per Foot) Trapezoidal (Where H is the height of the shoring in feet)**
Up to 10	25	16H
11 to 20	30	19H
21 to 30	37	23H

Trapezoidal Distribution of Pressure



7.16.12 It is very important to note that active pressures can only be achieved when movement in the soil (earth wall) occurs. If movement in the soil is not acceptable, such as adjacent to an existing structure, or the pile is restrained from movement by bracing or a tie back anchor, an at-rest pressure of 57 pcf should be considered for design purposes.

7.16.13 Where a combination of sloped embankment and shoring is utilized, the pressure will be greater and must be determined for each combination. Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic, or adjacent structures and must be determined for each combination.

7.16.14 It is recommended that line-load surcharges from adjacent wall footings, use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.20 \times \left(\frac{z}{H}\right)}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.28 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

where x is the distance from the face of the excavation or wall to the vertical line-load, H is the distance from the bottom of the footing to the bottom of excavation or wall, z is the depth at which the horizontal pressure is desired, Q_L is the vertical line-load and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.16.15 It is recommended that vertical point-loads, from construction equipment outriggers or adjacent building columns use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.28 \times \left(\frac{z}{H}\right)^2}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.77 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)^2}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

then

$$\sigma'_H(z) = \sigma_H(z) cos^2(1.1\theta)$$

where x is the distance from the face of the excavation/wall to the vertical point-load, H is distance from the outrigger/bottom of column footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, Q_p is the vertical point-load, $\sigma_H(z)$ is the horizontal pressure at depth z, θ is the angle between a line perpendicular to the excavation/wall and a line from the point-load to location on the excavation/wall where the surcharge is being evaluated, and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.16.16 In addition to the recommended earth pressure, the upper 10 feet of the shoring adjacent to the street or driveway areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the shoring due to normal street traffic. If the traffic is kept back at least 10 feet from the shoring, the traffic surcharge may be neglected.

7.16.17 It is difficult to accurately predict the amount of deflection of a shored embankment. It should be realized that some deflection will occur. It is recommended that the deflection be minimized to prevent damage to existing structures and adjacent improvements. Where public right-of-ways are present or adjacent offsite structures do not surcharge the shoring excavation, the shoring deflection should be limited to less than 1 inch at the top of the shored embankment. Where offsite structures are within the shoring surcharge area it is recommended that the beam deflection be limited to less than ½ inch at the elevation of the adjacent offsite foundation, and no deflection at all if deflections will damage existing structures. The allowable deflection is dependent on many factors, such as the presence of structures and utilities near the top of the embankment, and will be assessed and designed by the project shoring engineer.

7.16.18 Because of the depth of the excavation, some means of monitoring the performance of the shoring system is suggested. The monitoring should consist of periodic surveying of the lateral and vertical locations of the tops of all soldier piles and the lateral movement along the entire lengths of selected soldier piles.

7.16.19 Due to the depth of the depth of the excavation and proximity to adjacent structures, it is suggested that prior to excavation the existing improvements be inspected to document the present condition. For documentation purposes, photographs should be taken of preconstruction distress conditions and level surveys of adjacent grade and pavement should be considered. During excavation activities, the adjacent structures and pavement should be periodically inspected for signs of distress. In the even that distress or settlement is noted, an investigation should be performed and corrective measures taken so that continued or worsened distress or settlement is mitigated. Documentation and monitoring of the offsite structures and improvements is not the responsibility of the geotechnical engineer.

7.17 Tie-Back Anchors

7.17.1 Tie-back anchors may be used to resist lateral loads. Friction anchors are recommended. For design purposes, it may be assumed that the active wedge adjacent to the shoring is defined by a plane drawn 35 degrees with the vertical through the bottom plane of the excavation. Friction anchors should extend a minimum of 20 feet beyond the potentially active wedge and to greater lengths if necessary to develop the desired capacities. The locations and depths of all offsite utilities should be thoroughly checked and incorporated into the drilling angle design for the tie-back anchors.

7.17.2 The capacities of the anchors should be determined by testing of the initial anchors as outlined in a following section. Only the frictional resistance developed beyond the active wedge would be effective in resisting lateral loads. Anchors should be placed at least 6 feet on center to be considered isolated. Based on the height of the proposed excavation, it is anticipated that two rows of anchors may be required. For preliminary design purposes, it is estimated that drilled friction anchors constructed without utilizing post-grouting techniques will develop average skin frictions as follows:

- 7 feet below the top of the excavation – 1,000 pounds per square foot
- 20 feet below the top of the excavation – 1,500 pounds per square foot

7.17.3 Depending on the techniques utilized, and the experience of the contractor performing the installation, a maximum allowable friction capacity of 3 kips per linear foot for post-grouted anchors (for a 20 foot length beyond the active wedge) may be assumed for design purposes. Only the frictional resistance developed beyond the active wedge should be utilized in resisting lateral loads.

7.18 Anchor Installation

7.18.1 Tied-back anchors are typically installed between 20 and 40 degrees below the horizontal; however, occasionally alternative angles are necessary to avoid existing improvements and utilities. The locations and depths of all offsite utilities should be thoroughly checked prior to design and installation of the tie-back anchors. Caving of the anchor shafts, particularly within sand and gravel deposits or seepage zones, should be anticipated during installation and provisions should be implemented in order to minimize such caving. It is suggested that hollow-stem auger drilling equipment be used to install the anchors. The anchor shafts should be filled with concrete by pumping from the tip out, and the concrete should extend from the tip of the anchor to the active wedge. In order to minimize the chances of caving, it is recommended that the portion of the anchor shaft within the active wedge be backfilled with sand before testing the anchor. This portion of the shaft should be filled tightly and flush with the face of the excavation. The sand backfill should be placed by pumping; the sand may contain a small amount of cement to facilitate pumping.

7.19 Anchor Testing

7.19.1 All of the anchors should be tested to at least 150 percent of design load. The total deflection during this test should not exceed 12 inches. The rate of creep under the 150 percent test load should not exceed 0.1 inch over a 15-minute period in order for the anchor to be approved for the design loading.

7.19.2 At least ten percent of the anchors should be selected for "quick" 200 percent tests and three additional anchors should be selected for 24-hour 200 percent tests. The purpose of the 200 percent tests is to verify the friction value assumed in design. The anchors should be tested to develop twice the assumed friction value. These tests should be performed prior to installation of additional tiebacks. Where satisfactory tests are not achieved on the initial anchors, the anchor diameter and/or length should be increased until satisfactory test results are obtained.

7.19.3 The total deflection during the 24-hour 200 percent test should not exceed 12 inches. During the 24-hour tests, the anchor deflection should not exceed 0.75 inches measured after the 200 percent test load is applied.

7.19.4 For the "quick" 200 percent tests, the 200 percent test load should be maintained for 30 minutes. The total deflection of the anchor during the 200 percent quick tests should not exceed 12 inches; the deflection after the 200 percent load has been applied should not exceed 0.25 inch during the 30-minute period.

7.19.5 After a satisfactory test, each anchor should be locked-off at the design load. This should be verified by rechecking the load in the anchor. The load should be within 10 percent of the design load. A representative of this firm should observe the installation and testing of the anchors.

7.20 Internal Bracing

7.20.1 Rakers may be utilized to brace the soldier piles in lieu of tieback anchors. The raker bracing could be supported laterally by temporary concrete footings (deadmen) or by the permanent, interior footings. For design of such temporary footings or deadmen, poured with the bearing surface normal to rakers inclined at 45 degrees, a bearing value of 2,500 psf in competent alluvial soil, provided the shallowest point of the footing is at least one foot below the lowest adjacent grade. The structural engineer should review the shoring plans to determine if raker footings conflict with the structural foundation system. The client should be aware that the utilization of rakers could significantly impact the construction schedule do to their intrusion into the construction site and potential interference with equipment.

7.21 Stormwater Infiltration

7.21.1 During the November 2, 2016, site exploration, boring B5 was utilized to perform percolation testing. The boring was advanced to the depth listed in the table below. A slotted casing was placed in the boring, and the annular space between the casing and excavation was filled with filter pack. The boring was then filled with water to pre-saturate the soils. On November 3, 2016, the casing was refilled with water, maintained at a depth of at least 1 foot above the excavation bottom for at least 60 minutes, and then percolation test readings were performed after repeated flooding of the cased excavation. Based on the test results, the percolation rate and average infiltration rate (adjusted percolation rate) for the earth materials encountered is listed in the following table.

Boring	Infiltration Depth (ft.)	Average Infiltration Rate (in / hour)
B5	30-35.5	0.05

7.21.2 The results of the percolation testing indicate that the infiltration rate is slow and is likely the result of very dense and fine-grained soils that are present, which are typically not conducive to rapid infiltration.

7.21.3 Based on the percolation test result, a stormwater infiltration system is not recommended for this project. It is suggested that stormwater be retained, filtered and discharged in accordance with the requirements of the local governing agency.

7.22 Surface Drainage

7.22.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.

7.22.2 All site drainage should be collected and controlled in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2014 CBC 1804.4 or other applicable standards. In addition, drainage should not be allowed to flow uncontrolled over any descending slope. Discharge from downspouts, roof drains and scuppers are not recommended onto unprotected soils within five feet of the building perimeter. Planters which are located adjacent to foundations should be sealed to prevent moisture intrusion into the soils providing foundation support. Landscape irrigation is not recommended within 5 feet of the building perimeter footings except when enclosed in protected planters.

7.22.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

7.22.4 Landscaping planters immediately adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Either a subdrain, which collects excess irrigation water and transmits it to drainage structures, or an impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, it is recommended that consideration be given to providing a cutoff wall along the edge of the pavement that extends at least 12 inches below the base material.

7.23 Plan Review

7.23.1 Grading, foundation, and shoring plans should be reviewed by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.

2. This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

4. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

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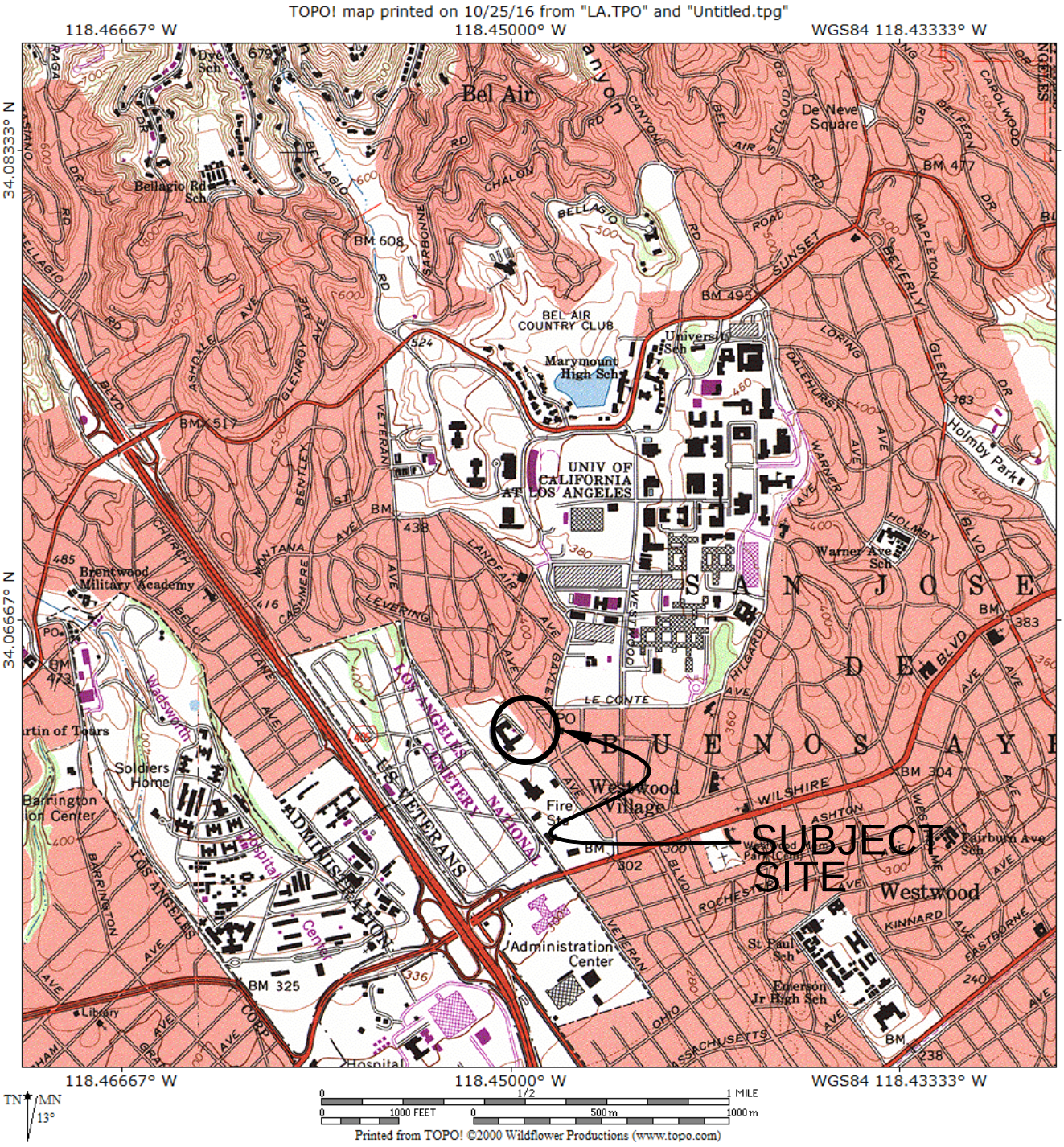

REFERENCE: U.S.G.S. TOPOGRAPHIC MAPS, 7.5 MINUTE SERIES, BEVERLY HILLS, CA QUADRANGLE

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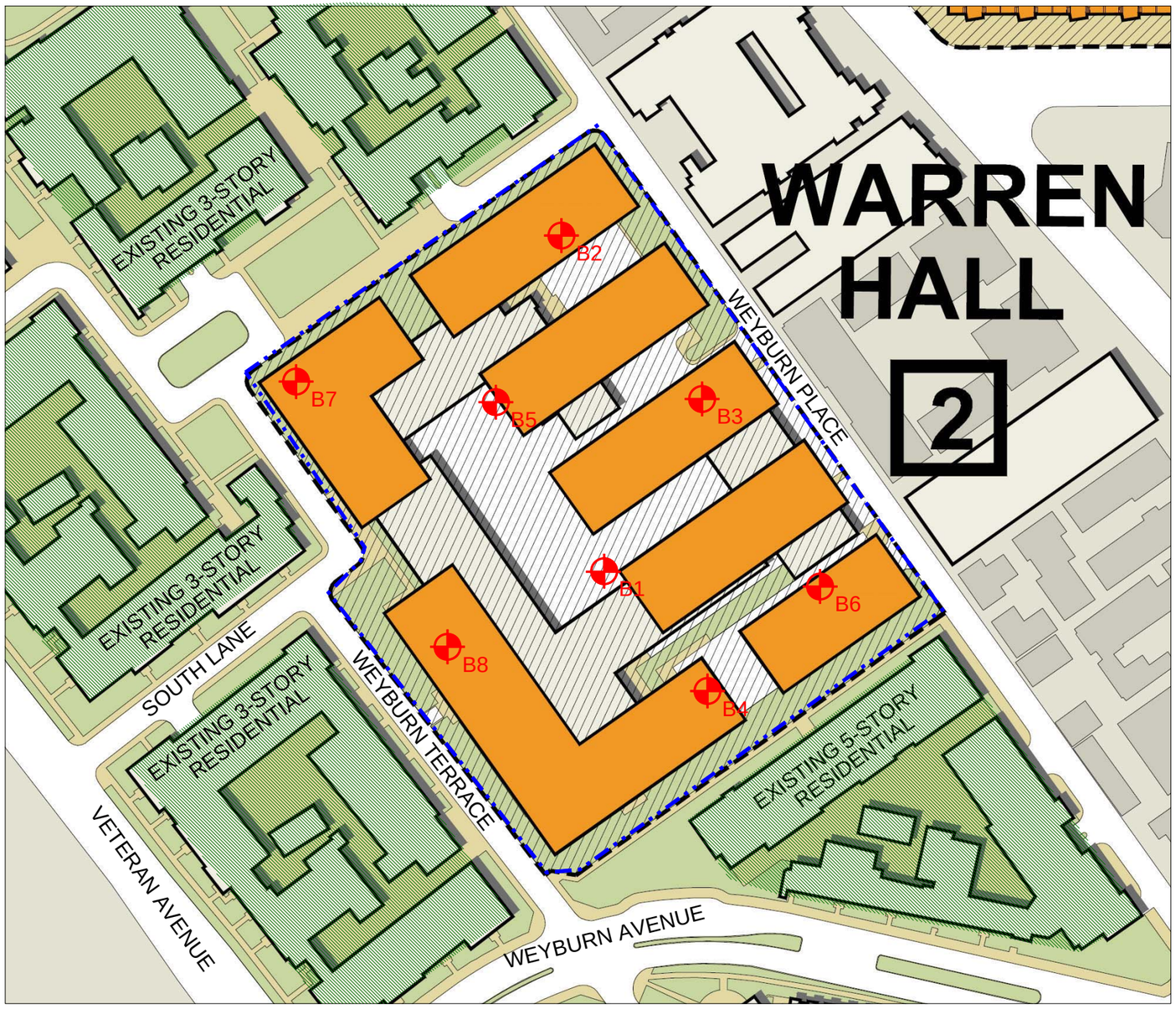
DRAFTED BY: RA | CHECKED BY: SFK

VICINITY MAP

UCLA - WARREN HALL
900 WEYBURN PLACE
LOS ANGELES, CALIFORNIA

DEC. 2016 | PROJECT NO. A9060-06-11 | FIG. 1



LEGEND

- B8 — Boring Location and Number
- Existing Property Line
- Approximate Location of Proposed Structure
- Approximate Location of Offsite Structures

0 60' 120'

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SITE PLAN

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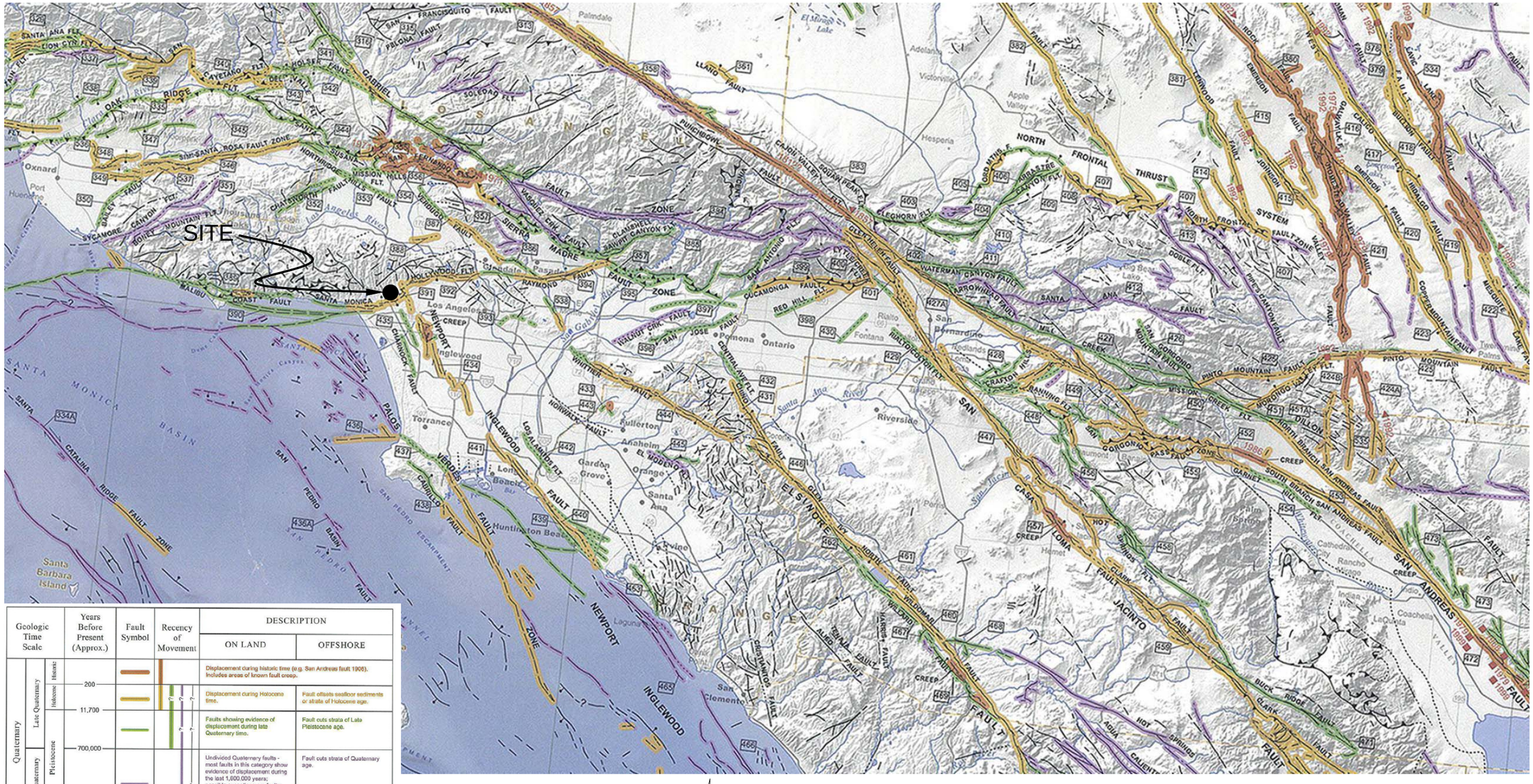
DEC 2016	PROJECT NO. A9060-06-11	FIG. 2

Reference: Jennings, C.W. and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey Geologic Data Map No. 6.



Geologic Time Scale			Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION	
						ON LAND	OFFSHORE
Quaternary	Late Quaternary	Historic				Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
		Holocene	200			Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
			11,700			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
	Early Quaternary	Pleistocene	700,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
			1,600,000*			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.
Pre-Quaternary			4.5 billion (Age of Earth)				

* Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.8 Ma criterion.

0 12 24 Miles

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REGIONAL FAULT MAP

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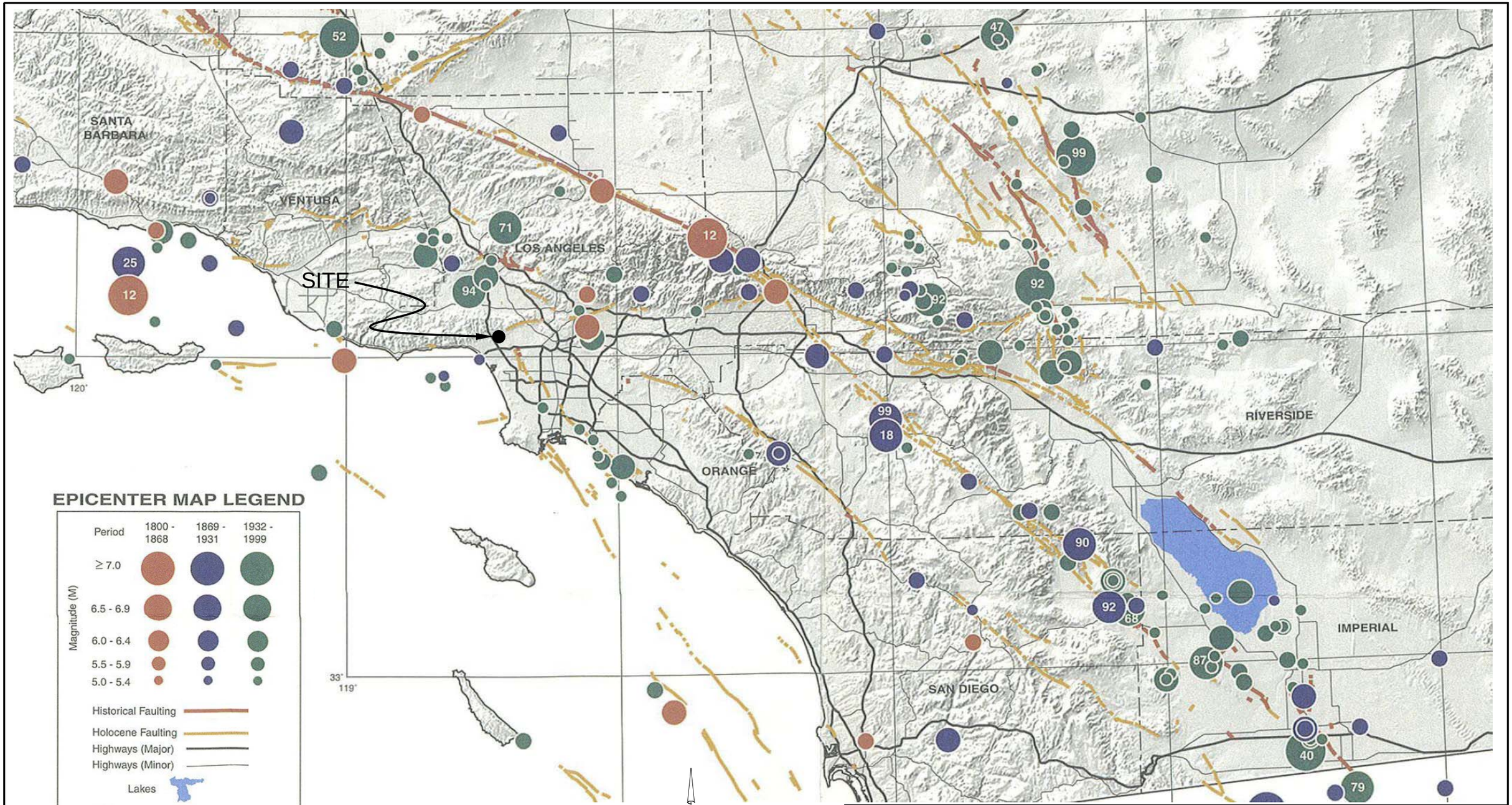
DEC 2016 | PROJECT NO. A9060-06-11 | FIG. 3



EPICENTER MAP LEGEND

Period	1800 - 1868	1869 - 1931	1932 - 1999
Magnitude (M) ≥ 7.0			
6.5 - 6.9			
6.0 - 6.4			
5.5 - 5.9			
5.0 - 5.4			

Historical Faulting
Holocene Faulting
Highways (Major)
Highways (Minor)
Lakes
65 Last two digits of M ≥ 6.5 earthquake year

Reference: Toppozada, T., Branum, D., Petersen, M., Hallstrom, C., Cramer, C., and Reichle, M., 2000, Epicenters and Areas Damaged by M≥5 California Earthquakes, 1800 - 1999, California Geological Survey, Map Sheet 49.

N

0 20 40 Miles

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REGIONAL SEISMICITY MAP

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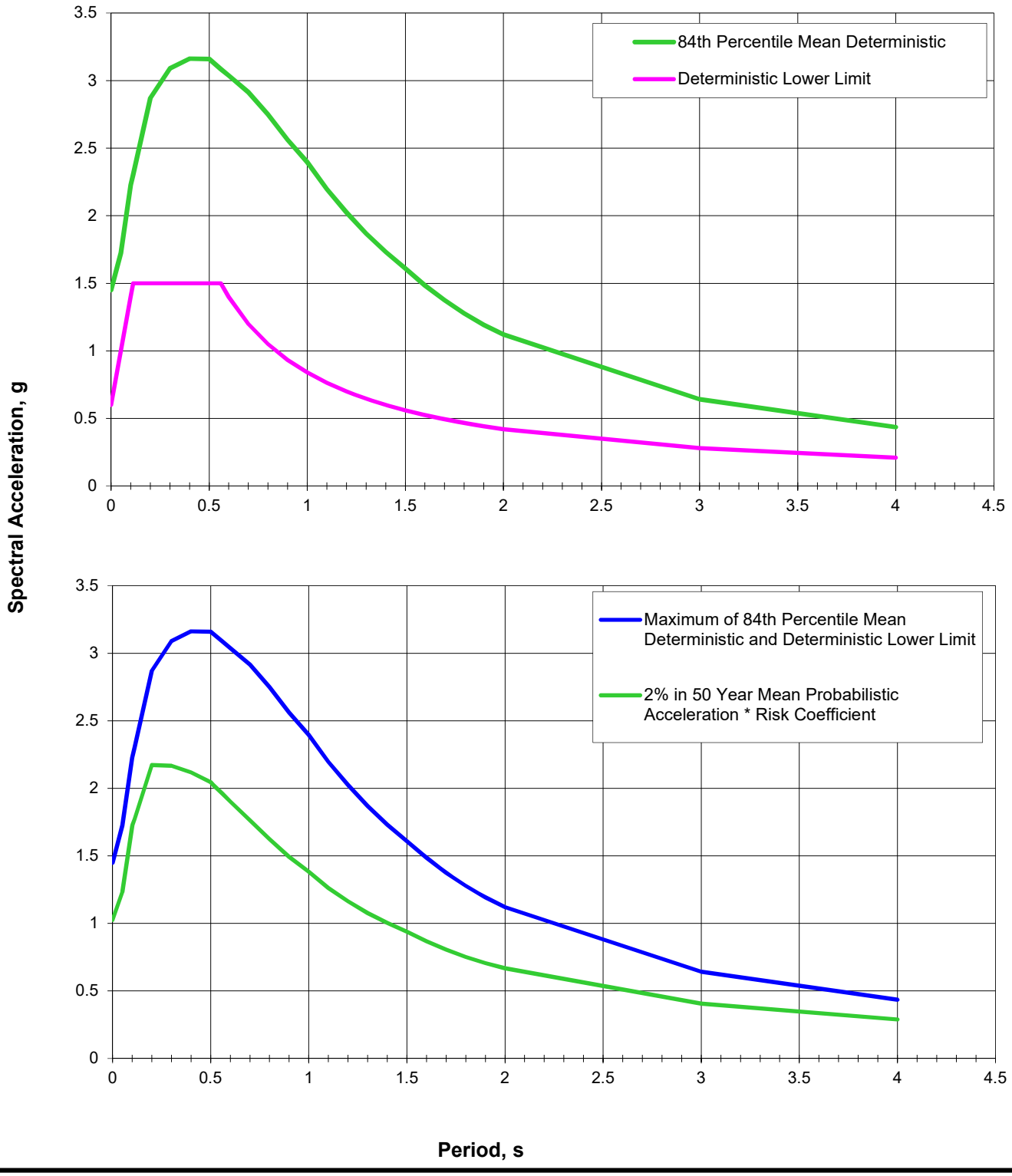

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DESIGN RESPONSE SPECTRUM

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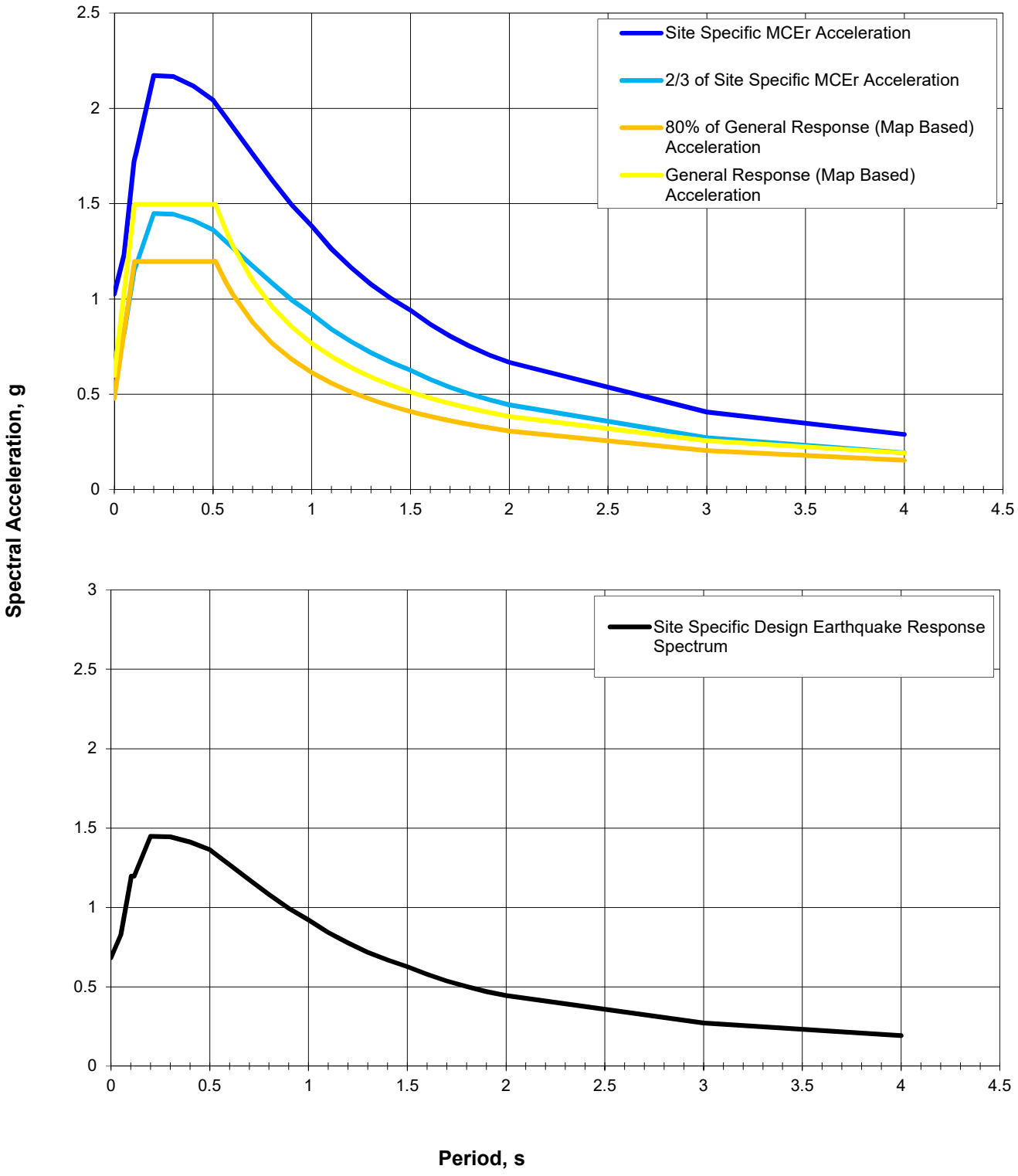
DEC 2016	PROJECT NO. A9060-06-11	FIG. 5



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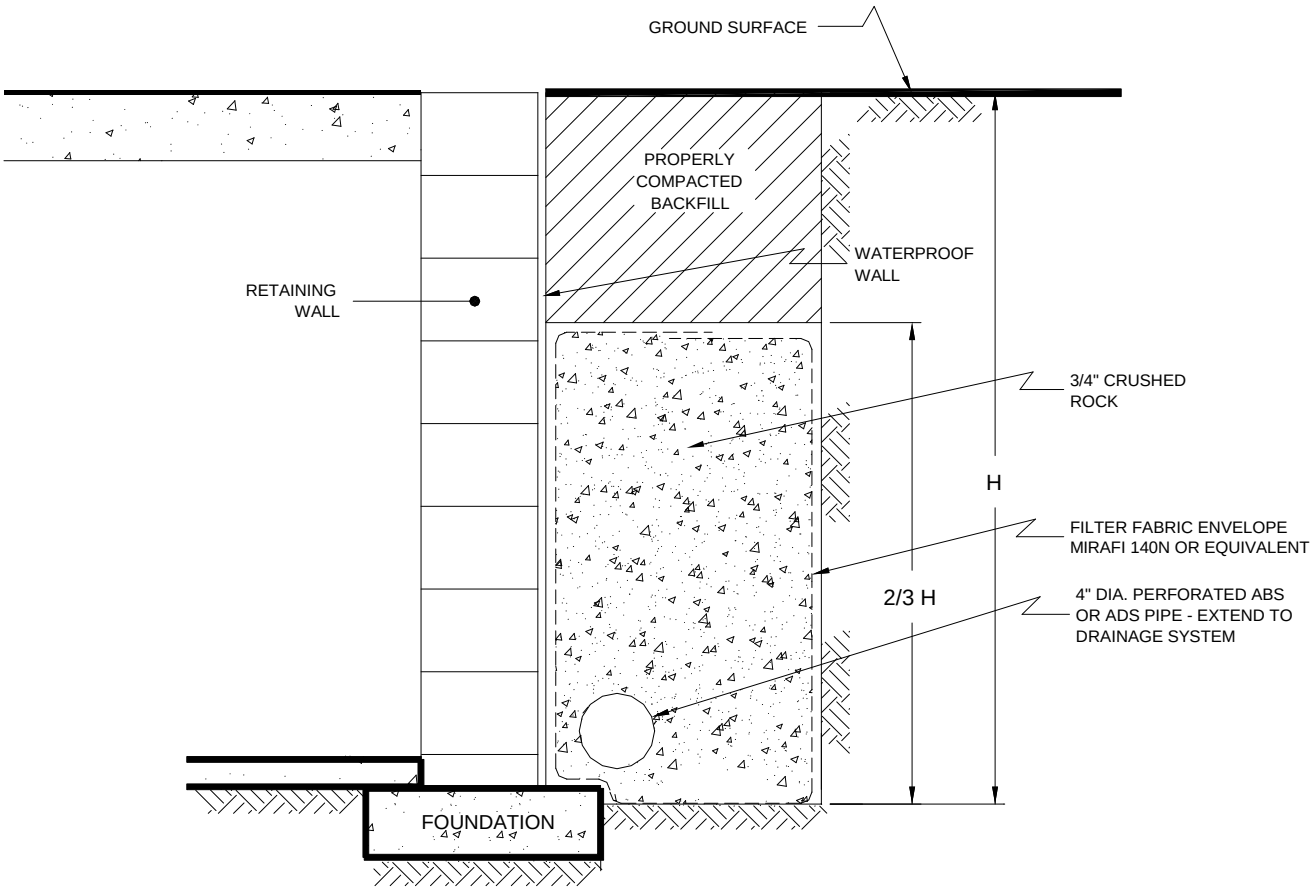
DEC 2016 | PROJECT NO. A9060-06-11 | FIG. 6



NO SCALE

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RETAINING WALL DRAIN DETAIL

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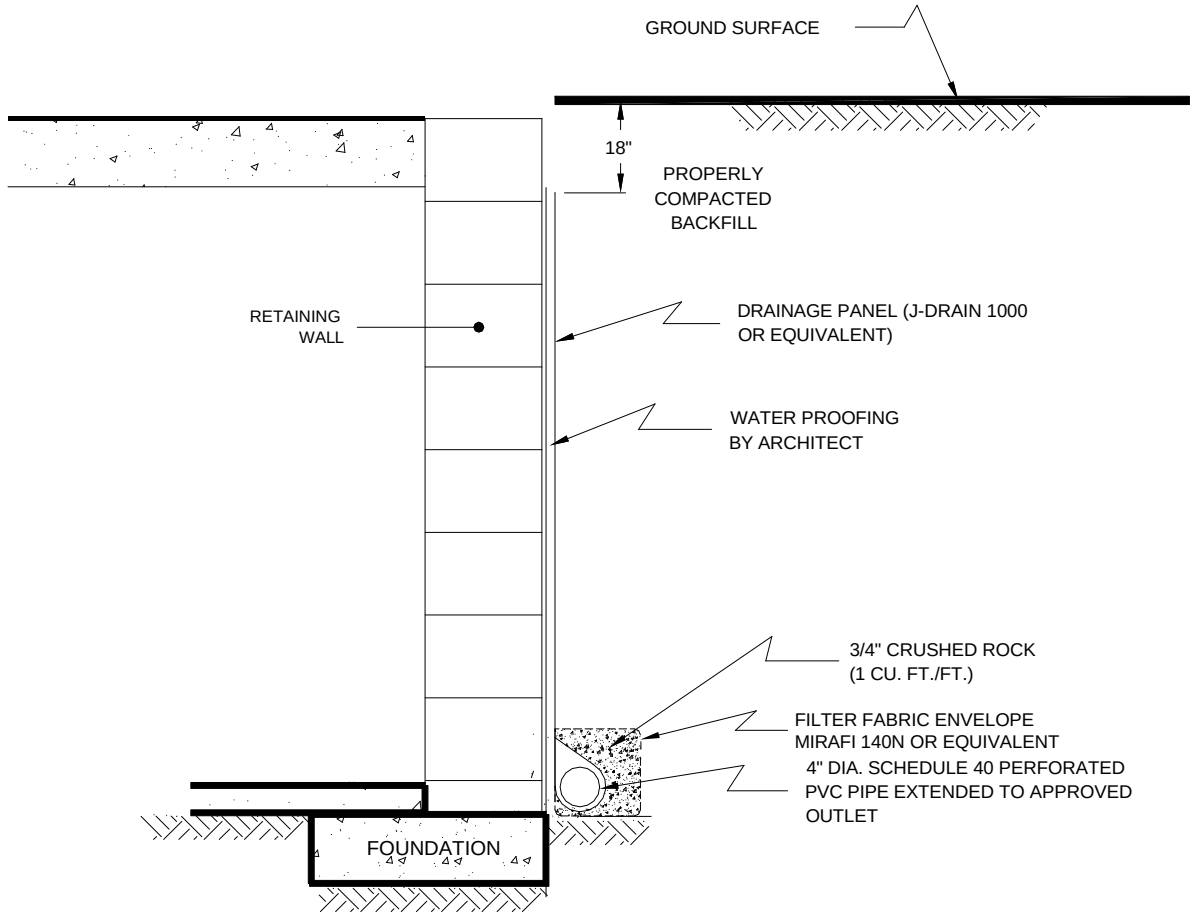
DEC. 2016	PROJECT NO. A9060-06-11	FIG. 7



NO SCALE

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RETAINING WALL DRAIN DETAIL

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DEC. 2016	PROJECT NO. A9060-06-11	FIG. 8

Ground Motion Spectral Accelerations, (g)

Spectral Period (seconds)	Site Specific Design Response Spectrum (5% Damping)
PGA	0.684
0.100	1.176
0.103	1.197
0.112	1.197
0.117	1.197
0.200	1.448
0.300	1.445
0.400	1.412
0.500	1.363
0.513	1.351
0.560	1.306
0.600	1.268
0.700	1.174
0.800	1.082
0.900	0.995
1.000	0.922
1.100	0.842
1.200	0.776
1.300	0.718
1.400	0.669
1.500	0.626
1.600	0.578
1.700	0.537
1.800	0.501
1.900	0.471
2.000	0.445
3.000	0.271
4.000	0.193

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DESIGN RESPONSE SPECTRUM

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LOS ANGELES, CALIFORNIA

DEC 2016	PROJECT NO. A9060-06-11	Table 1

APPENDIX A

APPENDIX A

FIELD INVESTIGATION

The site was explored on November 2 through November 4, 2016, by excavating six 8-inch diameter borings to depths of approximately 35½ to 70½ feet below the existing ground surface utilizing a truck-mounted hollow-stem auger drilling machine and two 4-inch diameter borings to depths of approximately 13 to 20 feet below the existing ground surface utilizing hand auger equipment and hand tools. Representative and relatively undisturbed samples were obtained by driving a 3-inch O. D., California Modified Sampler into the "undisturbed" soil mass with blows from a 140-pound auto-hammer falling 30 inches (hollow stem auger borings) and a slide hammer (hand auger borings). The California Modified Sampler was equipped with 1-inch high by 2 3/8-inch diameter brass sampler rings to facilitate soil removal and testing. Bulk samples were also obtained.

The soil conditions encountered in the borings were visually examined, classified and logged in general accordance with the Unified Soil Classification System (USCS). Logs of the borings are presented on Figures A1 through A8. The logs depict the soil and geologic conditions encountered and the depth at which samples were obtained. The locations of the borings are shown on Figure 2.

PROJECT NO. A9060-06-11

BORING 1

ELEV. (MSL.) **373.0** DATE COMPLETED **11/2/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	BULK 0-5'				**AC:6" BASE: 6"** **ARTIFICIAL FILL** Silty Sand, medium dense, slightly moist, yellowish brown, fine- to medium-grained, some coarse-grained.			
4	B1@5'			ML	**OLDER ALLUVIUM** Sandy Silt, hard, slightly moist, brown, fine- to coarse-grained, some gravel (to 3").	59	117.5	17.5
8	B1@8'			SM	Silty Sand, medium dense, slightly moist, grayish brown, fine- to medium-grained, some slate and siltstone gravel (to 1"), oxidized.	42	112.7	11.1
12	B1@11'				- dense, decrease in silt content	64	121.6	12.1
14	B1@14'			ML	- dark yellowish brown, fine- to medium-grained sand, trace coarse-grained Clayey Silt, hard, slightly moist, reddish brown, trace fine-grained sand.	58	113.6	15.7
16	B1@17'			SP-SM	Sand with Silt, poorly graded, medium dense, slightly moist, reddish brown, fine-grained.	42	108.6	20.8
20	B1@20'			ML	Silt with Clay, hard, slightly moist, reddish brown, some fine- to medium-grained sand, trace coarse-grained sand.	58	129.3	6.3
24	B1@25'			SP-SM	Sand with Silt, poorly graded, medium dense, slightly moist, reddish brown, fine- to medium-grained, some coarse-grained.	50	112.7	6.7
28								

A9060-06-11 BORING LOGS.GPJ

Figure A1,
Log of Boring 1, Page 1 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. A9060-06-11

BORING 1

ELEV. (MSL.) **373.0** DATE COMPLETED **11/2/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B1@30'			SW	Sand with Gravel, well-graded, medium dense, slightly miost, reddish brown with orange mottles, fine- to coarse-grained, slate gravel (to 1.5").	35	115.6	12.4
32								
34				SP	Sand, poorly graded, very dense, slightly moist, yellowish brown, fine- to medium-grained, some silt.			
	B1@35'					50 (5")	113.8	4.2
36								
38								
40	B1@40'			SW	Sand, well-graded, very dense, slightly moist, yellowish brown, fine- to coarse-grained, some fine gravel.	50 (3")	111.3	11.4
42								
44					Sandy Silt with Gravel, hard, slightly moist, reddish brown, fine- to medium-grained, slate gravel (to 1.5").			
	B1@45'					50 (4")	112.5	6.4
46								
48					- increase in gravel content			
50	B1@50'			ML		50 (5")	121.6	14.2
52								
54								
	B1@55'					50 (5")	126.6	7.1
56								
58								
				SW	Sand, well-graded, very dense, slightly moist, yellowish brown, fine- to			

A9060-06-11 BORING LOGS.GPJ

Figure A1,
Log of Boring 1, Page 2 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. A9060-06-11

BORING 1

ELEV. (MSL.) **373.0** DATE COMPLETED **11/2/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
60	B1@60'		▼	SW	coarse-grained, some fine gravel (to 1.5").	50 (5")	100.8	21.6
62								
64					Silt with Clay, hard, slightly moist, yellowish brown, some fine-grained sand.			
	B1@65'			ML		50 (6")	99.2	21.6
66								
68								
				ML	Sandy Silt with Clay, hard, moist, reddish brown, fine-grained.			
70	B1@70'					50 (5")	--	--

Total depth of boring: 70.5 feet
Fill to 4 feet.
Groundwater encountered at 60.7 feet.
Backfilled with soil cuttings and tamped.
AC patched.

*Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.

A9060-06-11 BORING LOGS.GPJ

Figure A1,
Log of Boring 1, Page 3 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9060-06-11

BORING 2

ELEV. (MSL.) **379.0** DATE COMPLETED **11/2/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**AC: 5" BASE: 14"**			
					ARTIFICIAL FILL			
2					Sandy Silt, firm, slightly moist, yellowish brown, fine- to medium-grained, some coarse-grained.			
4					- decrease in sand content			
	B2@5'				**OLDER ALLUVIUM**			
6	BULK 5-10'				Sandy Silt, firm, slightly moist, dark reddish brown, fine- to medium-grained, some coarse-grained, some slate gravel (to 1").	13	108.0	20.2
				ML				
8	B2@8'				- hard, increase in gravel content	50 (5")	125.2	15.6
10					Silty Sand, medium dense, dark reddish brown, slate gravel (to 1"), some silt.			
	B2@11'					39	115.9	16.5
12				SM				
14	B2@14'				- dense, decrease in silt content, gravel (to 1.5")	50 (6")	122.7	4.4
16					Sandy Silt, hard, slightly moist, dark reddish brown, fine-grained, some fine gravel (to 1.5").			
	B2@17'			ML		51	125.6	6.8
18								
20	B2@20'				Silty Sand, medium dense, dark reddish brown, fine- to medium-grained, some gravel (to 1.5"), moderately weathered.	37	120.0	10.3
				SM				
22								
24					Sand with Gravel, well-graded, dense to very dense, slightly moist, dark reddish brown, some silt, slate gravel (to 1.5").			
	B2@25'					50 (6")	124.9	5.8
26				SW				
28								
				SM	Silty Sand, dense to very dense, slightly moist, pale brown, fine-grained,			

A9060-06-11 BORING LOGS.GPJ

Figure A2,
Log of Boring 2, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9060-06-11

BORING 2

ELEV. (MSL.) **379.0** DATE COMPLETED **11/2/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B2@30'				trace medium-grained.	50 (6")	121.8	4.3
32								
34								
36	B2@35'			SM	- very dense, trace gravel (to 1")	50 (4")	105.8	10.3
38								
40	B2@40'					50 (5")	123.6	3.9
42								
44	B2@45'			ML	Sandy Silt, hard, slightly moist, pale brown, very fine- to fine-grained, trace clay.	50 (6")	118.4	14.7
46								
48								
50	B2@50'			ML	Silt, hard, slightly moist, pale brown, trace fine-grained sand.	59	116.5	10.3

Total depth of boring: 50.5 feet
Fill to 4.5 feet.
No groundwater encountered.
Backfilled with soil cuttings and tamped.

*Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.

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Figure A2,
Log of Boring 2, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. A9060-06-11

BORING 3

ELEV. (MSL.) **382.0** DATE COMPLETED **11/2/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**AC: 5" BASE: 4"**			
					ARTIFICIAL FILL			
2					Sandy Silt, firm, slightly moist, dark yellowish brown, fine-grained.			
4					- firm, some fine gravel (to .5")			
6	B3@5'				**OLDER ALLUVIUM** Silt with Sand, stiff, slightly moist, dark yellowish brown, fine- to medium-grained, some coarse-grained, some gravel (to 1.5").	33	120.1	12.6
8	B3@8'			ML	- hard	50 (6")	128.7	10.4
10					- abundant fine gravel (to 1")			
12	B3@11'					50 (5")	131.7	9.7
14	B3@14'			SW	Sand with Gravel, well-graded, very dense, slightly moist, dark reddish brown, slate gravel (to 1.5").	50 (5")	130.3	8.1
16								
18	B3@17'			ML	Sandy Silt, hard, slightly moist, dark reddish brown, fine-grained, some fine gravel (to 1.5").	50 (6")	108.5	12.5
20	B3@20'				Sand with Gravel, well-graded, very dense, reddish brown with orange mottles, fine- to coarse-grained, gravel (to 1.5"), some silt.	50 (5.5")	115.1	9.4
22				SW				
24								
26	B3@25'			ML	Sandy Silt, hard, slightly moist, dark reddish brown, fine- to medium-grained, some gravel (to .75").	50 (5")	118.8	6.4
28								
				SW	Sand with Gravel, well-graded, very dense, slightly moist, dark reddish			

A9060-06-11 BORING LOGS.GPJ

Figure A3,
Log of Boring 3, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-11

BORING 3

ELEV. (MSL.) **382.0** DATE COMPLETED **11/2/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B3@30'			SW	brown, fine- to coarse-grained, slate gravel (to 1.5").	50 (5")	106.8	9.5
32								
34				ML	Sandy Silt, hard, slightly moist, light brown, fine- to medium-grained, some gravel (to 0.5").			
	B3@35'					50 (5")	102.1	8.2

Total depth of boring: 35.5 feet
Fill to 4.5 feet.
No groundwater encountered.
Backfilled with soil cuttings and tamped.
Asphalt patched.

*Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.

A9060-06-11 BORING LOGS.GPJ

Figure A3,
Log of Boring 3, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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GEOCON

PROJECT NO. A9060-06-11

BORING 4

ELEV. (MSL.) **373.0** DATE COMPLETED **11/2/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	BULK 0-5'				**ARTIFICIAL FILL** Silty Sand, loose, slightly moist, dark yellowish brown, fine- to medium-grained, some coarse-grained, some gravel (to 1").			
6	B4@5'			SM	**OLDER ALLUVIUM** Silty Sand, medium dense, slightly moist, yellowish brown, fine- to medium-grained, some fine gravel (to 0.25").	15	121.2	13.1
8	B4@8'			ML	Silt, firm, slightly moist, dark yellowish brown with black mottles, some fine-grained sand and clay.	21	113.8	14.2
12	B4@11'			ML	Sandy Silt, soft to firm, slightly moist, dark yellowish brown, fine-grained, trace clay.	13	117.1	15.7
14	B4@14'			SM	Silty Sand, medium dense, slightly moist, dark reddish brown, fine- to medium-grained, some fine gravel (to 0.25").	31	105.0	16.8
18	B4@17'			SM	- dense	55	126.2	12.2
20	B4@20'			SM	- medium dense	39	119.7	15.1
26	B4@25'			ML	Sandy Silt, hard, slightly moist, dark reddish brown, fine- to medium-grained, some fine gravel.	55	112.9	17.7
				SW	Sand with Gravel, well-graded, dense, slightly moist, grayish brown, fine- to			

A9060-06-11 BORING LOGS.GPJ

Figure A4,
Log of Boring 4, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-11

BORING 4

ELEV. (MSL.) **373.0** DATE COMPLETED **11/2/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B4@30'			SW	coarse-grained, gravel (to 0.75"), some silt.	64	121.2	11.7
32								
34					- very dense, moist, medium-grained, friable			
	B4@35'					50 (4")	123.7	8.0

Total depth of boring: 35.5 feet
Fill to 5 feet.
No groundwater encountered.
Percolation pipe installed.

*Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.

A9060-06-11 BORING LOGS.GPJ

Figure A4,
Log of Boring 4, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-11

BORING 5

ELEV. (MSL.) **374.0** DATE COMPLETED **11/3/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**AC: 5" BASE: NONE**			
2					**ARTIFICIAL FILL** Sandy Silt, firm, slightly moist, yellowish brown, fine- to medium-grained, some coarse-grained, some fine gravel.			
4								
6	B5@5' BULK 5-10'				**OLDER ALLUVIUM** Sandy Silt, hard, slightly moist, reddish brown, fine-grained, gravel (to 1").	44	117.3	15.5
8	B5@8'				- dense, oxidation mottling	50 (6")	115.5	15.8
10								
12	B5@11'				- fine- to medium-grained, trace coarse-grained, some fine gravel	50 (4")	120.5	15.0
14	B5@14'			ML	- decrease in gravel content	50 (6")	113.5	14.6
16								
18	B5@17'				- no recovery	50 (6")	--	--
20	B5@20'				- fine- to medium-grained sand	40	119.1	11.2
22								
24					Silty Sand, medium dense, slightly moist, dark yellowish brown, fine- to medium-grained, trace coarse-grained.			
26	B5@25'			SM		52	118.6	11.6
28								
				SW	Sand with Gravel, well-graded, dense, slightly moist, dark yellowish brown,			

A9060-06-11 BORING LOGS.GPJ

Figure A5,
Log of Boring 5, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-11

BORING 5

ELEV. (MSL.) **374.0** DATE COMPLETED **11/3/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B5@30'			SW	fine- to coarse-grained, slate gravel (to 1.5"), some oxidation mottling.	50 (6")	114.6	6.1
32								
34				ML	Sandy Silt, hard, slightly moist, reddish brown, fine- to medium-grained, trace coarse-grained.			
	B5@35'					50 (6")	119.4	12.3
					Total depth of boring: 35.5 feet Fill to 5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

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Figure A5,
Log of Boring 5, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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GEOCON

PROJECT NO. A9060-06-11

BORING 6

ELEV. (MSL.) **373.0** DATE COMPLETED **11/3/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**AC: 8" BASE: 6"**			
2					**ARTIFICIAL FILL** Silty Sand, medium dense, slightly moist, dark yellowish brown, fine- to medium-grained, some coarse-grained, some fine gravel (to 1").			
4								
6	B6@5' BULK 5-10'			ML	**OLDER ALLUVIUM** Silt with Gravel, medium dense, slightly moist, dark reddish brown, gravel (to .5").	30	119.2	15.8
8	B6@8'				Clayey Silt, firm, slightly moist, dark yellowish brown, some fine-grained sand.	21	100.4	20.9
10								
12	B6@11'			ML	- reddish brown, some gravel (to 1")	20	113.7	14.4
14	B6@14'					20	104.5	23.4
16					Silty Sand with Gravel, dense, slightly moist, reddish brown, fine- to medium-grained, some coarse-grained, gravel (to 0.5").			
18	B6@17'					68	129.6	9.4
20	B6@20'			SM		50 (6")	115.4	16.2
22								
24					Clayey Silt, hard, slightly moist, dark reddish brown, some fine-grained sand.			
26	B6@25'			ML		57	110.8	18.6
28					- moist, increase in clay content			

A9060-06-11 BORING LOGS.GPJ

Figure A6,
Log of Boring 6, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-11

BORING 6

ELEV. (MSL.) **373.0** DATE COMPLETED **11/3/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B6@30'			ML		30	106.5	18.8
32								
34					Sandy Silt with Clay, hard, slightly moist, dark yellowish brown, fine-grained.			
36	B6@35'			ML		50 (5.5")	127.5	5.3
38								
40	B6@40'			SW	Sand with Gravel, well-graded, very dense, slightly moist, slate gravel (to 1").	50 (5")	112.4	5.1
42								
44								
46	B6@45'					50 (6")	120.2	13.9
48								
50	B6@50'			SM	Silty Sand, dense, slightly moist, yellowish brown, fine- to medium-grained, trace clay.	50 (5")	112.0	15.1

Total depth of boring: 50.5 feet
Fill to 5 feet.
No groundwater encountered.
Backfilled with soil cuttings and tamped.
Asphalt patched.

*Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.

A9060-06-11 BORING LOGS.GPJ

Figure A6,
Log of Boring 6, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-11

BORING 7

ELEV. (MSL.) **371.0** DATE COMPLETED **11/4/16**

EQUIPMENT **HAND AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**GRASS**			
					ARTIFICIAL FILL			
				SP	Sandy Silt, firm, slightly moist, brown, fine- to medium-grained, some coarse-grained, some gravel (to 1").			
2				SP				
	B7@3'				**OLDER ALLUVIUM**		107.1	10.6
4				SW	Sand with Gravel, poorly graded, medium dense, slightly moist, brown to grayish brown, fine- to medium-grained, some coarse-grained, some gravel (to 2").			
					- increase in sand content			
6	B7@6'			ML	Sand, poorly graded, medium dense, slightly moist, brown, fine- to medium-grained, trace coarse-grained, trace oxidation mottling.		105.1	17.0
8					Sand with Gravel, well-graded, medium dense, slightly moist, grayish brown, fine- to coarse-grained, trace silt.			
	B7@9'				- trace clay, increase in coarse-grained sand		91.6	20.5
10				SM	Clayey Silt, wet, soft, reddish brown.			
					Silty Sand, medium dense, wet, grayish brown, fine- to medium-grained, some coarse-grained.			
12					- increase in coarse-grained sand, slate gravel (to 1"), trace clay			
				SW	Sand, well-graded, medium dense, moist, dark yellowish brown, some gravel (to 1"), trace clay.			
14	B7@13.5'				Sand with Gravel, well-graded, dense, slightly moist, dark brown, gravel (to 0.5"), some silt and clay.		114.8	14.4
	B7@15.5'						100.5	10.6
16				SW				
18								
20					Total depth of boring: 20 feet Fill to 1 foot. No groundwater encountered. Backfilled with soil cuttings and tamped.			

A9060-06-11 BORING LOGS.GPJ

Figure A7,
Log of Boring 7, Page 1 of 1

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-11

BORING 8

ELEV. (MSL.) **373.0** DATE COMPLETED **11/4/16**

EQUIPMENT **HAND AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**ARTIFICIAL FILL** Sandy Silt, firm, slightly moist, brown, fine- to medium-grained.			
2								
4	B8@3'						108.8	20.0
6	B8@6'			SW	**OLD ALLUVIUM** Sandy Silt with Gravel, well-graded, medium dense, slightly moist, reddish brown, fine- to coarse-grained, some silt.		103.9	18.4
8								
10	B8@10'			SM	Silty Sand with Gravel, dense, slightly moist, reddish brown, fine- to medium-grained, some coarse-grained, slate gravel (to 2"), some clay.		116.9	10.8
12	B8@12.5'			SM	Silty Sand, medium dense, slightly moist, yellowish brown, fine- to medium-grained.		93.3	25.0
					Total depth of boring: 13 feet Fill to 5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped.			

A9060-06-11 BORING LOGS.GPJ

Figure A8,
Log of Boring 8, Page 1 of 1

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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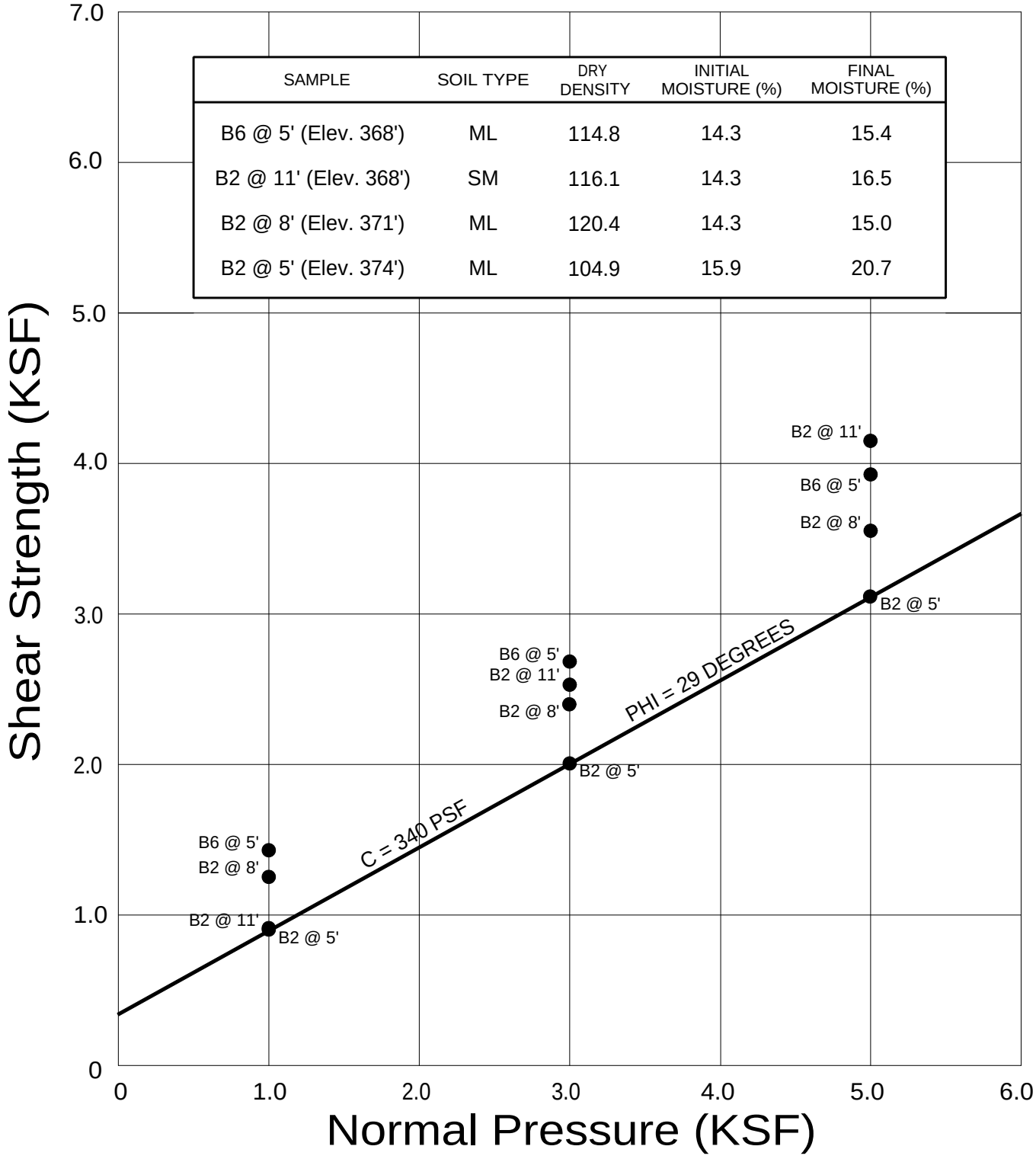
APPENDIX B

APPENDIX B

LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the "American Society for Testing and Materials (ASTM)", or other suggested procedures. Selected samples were tested for direct shear strength, consolidation and expansion characteristics, corrosivity, in-place dry density and moisture content. The results of the laboratory tests are summarized in Figures B1 through B11. The in-place dry density and moisture content of the samples tested are presented on the boring logs, Appendix A.

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B6 @ 5' (Elev. 368')	ML	114.8	14.3	15.4
B2 @ 11' (Elev. 368')	SM	116.1	14.3	16.5
B2 @ 8' (Elev. 371')	ML	120.4	14.3	15.0
B2 @ 5' (Elev. 374')	ML	104.9	15.9	20.7



● Direct Shear, Saturated

GEOCON WEST, INC.

ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

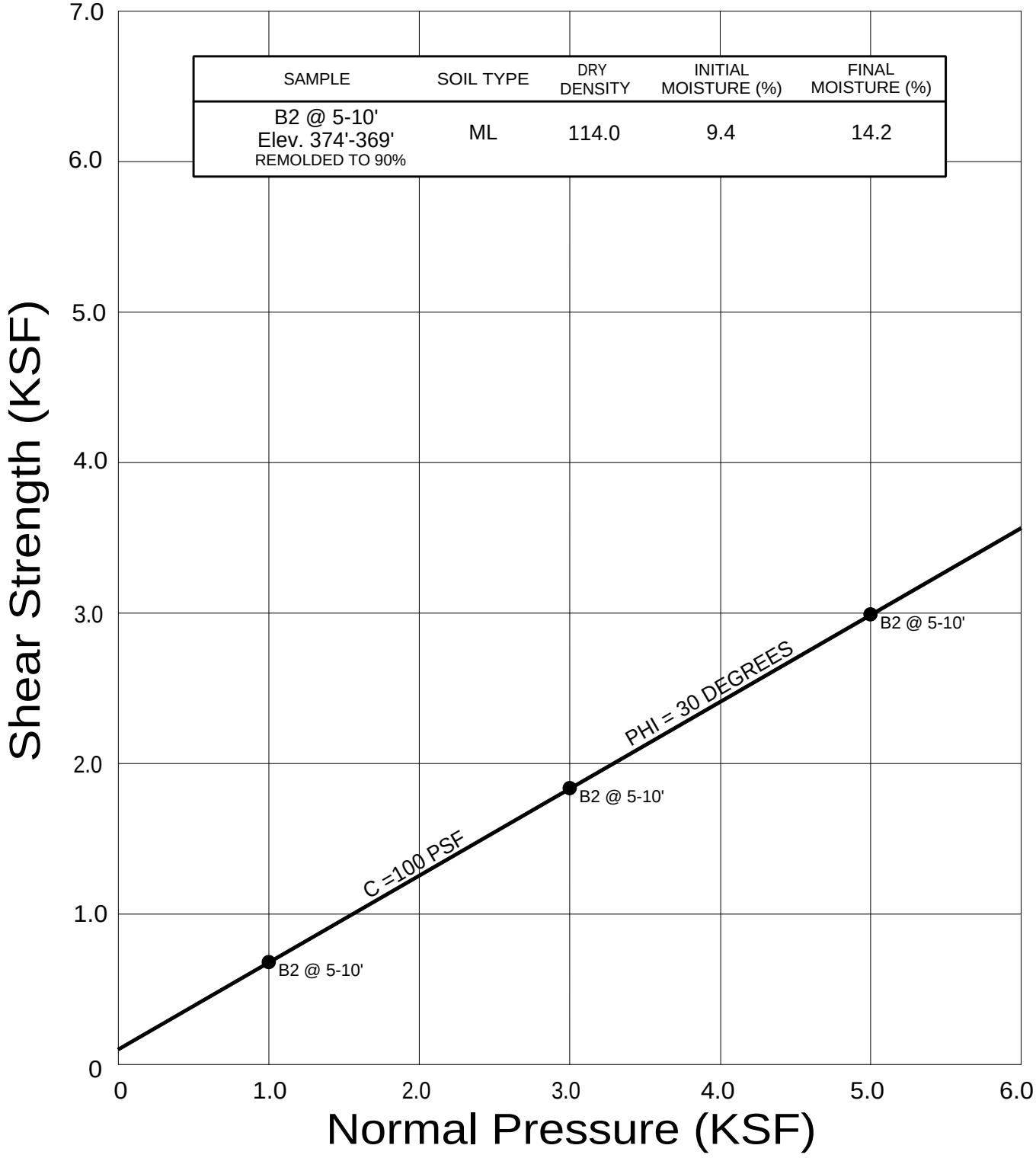
DRAFTED BY: JO | CHECKED BY: HHD

DIRECT SHEAR TEST RESULTS

UCLA - WARREN HALL
900 WEYBURN PLACE
LOS ANGELES, CALIFORNIA

DEC. 2016 | PROJECT NO. A9060-06-11 | FIG. B1

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B2 @ 5-10' Elev. 374'-369' REMOLDED TO 90%	ML	114.0	9.4	14.2



● Direct Shear, Saturated

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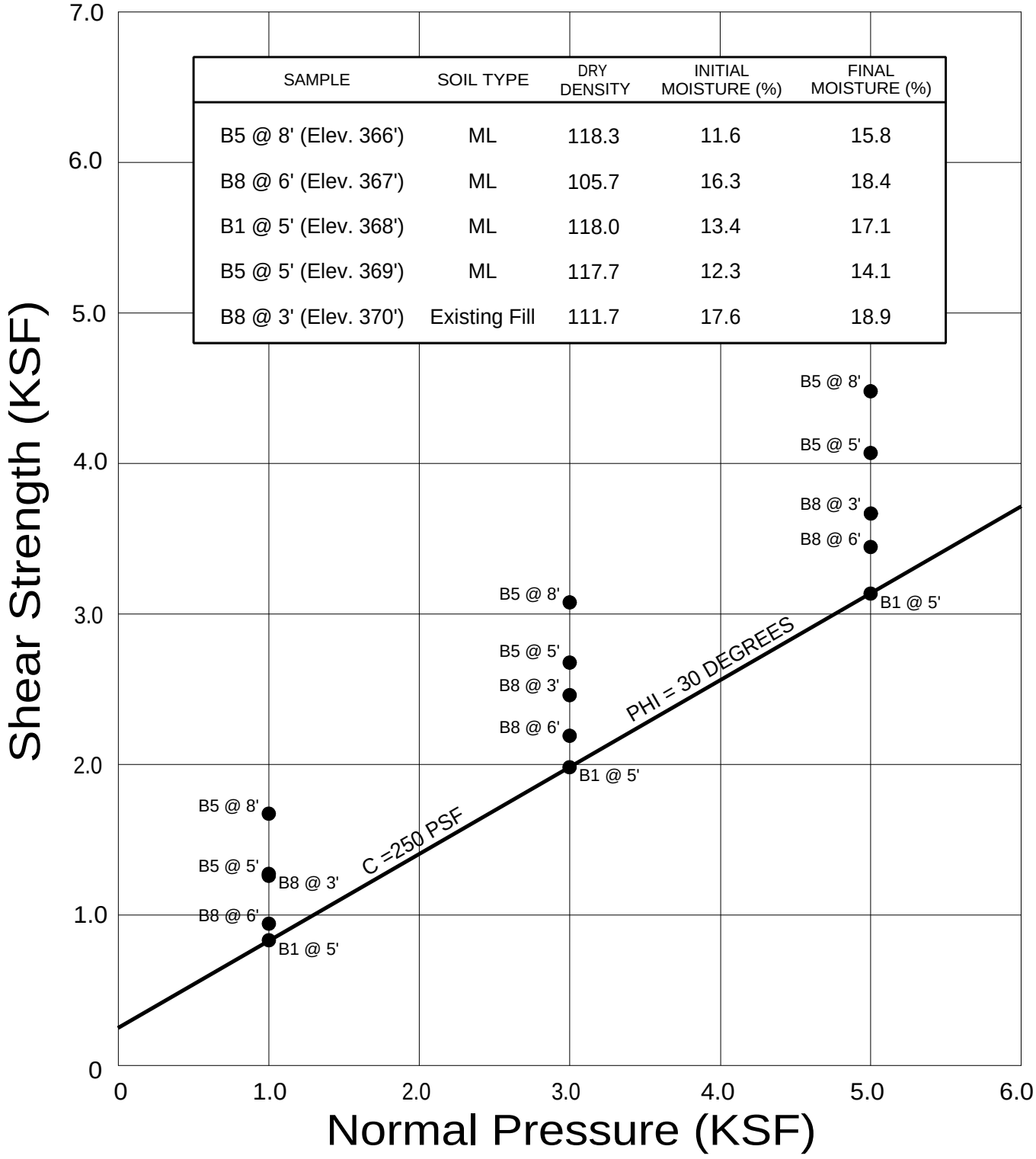
DRAFTED BY: JO | CHECKED BY: HHD

DIRECT SHEAR TEST RESULTS

UCLA - WARREN HALL
900 WEYBURN PLACE
LOS ANGELES, CALIFORNIA

DEC. 2016 | PROJECT NO. A9060-06-11 | FIG. B2

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B5 @ 8' (Elev. 366')	ML	118.3	11.6	15.8
B8 @ 6' (Elev. 367')	ML	105.7	16.3	18.4
B1 @ 5' (Elev. 368')	ML	118.0	13.4	17.1
B5 @ 5' (Elev. 369')	ML	117.7	12.3	14.1
B8 @ 3' (Elev. 370')	Existing Fill	111.7	17.6	18.9



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PHONE (818) 841-8388 - FAX (818) 841-1704

DRAFTED BY: JO | CHECKED BY: HHD

DIRECT SHEAR TEST RESULTS

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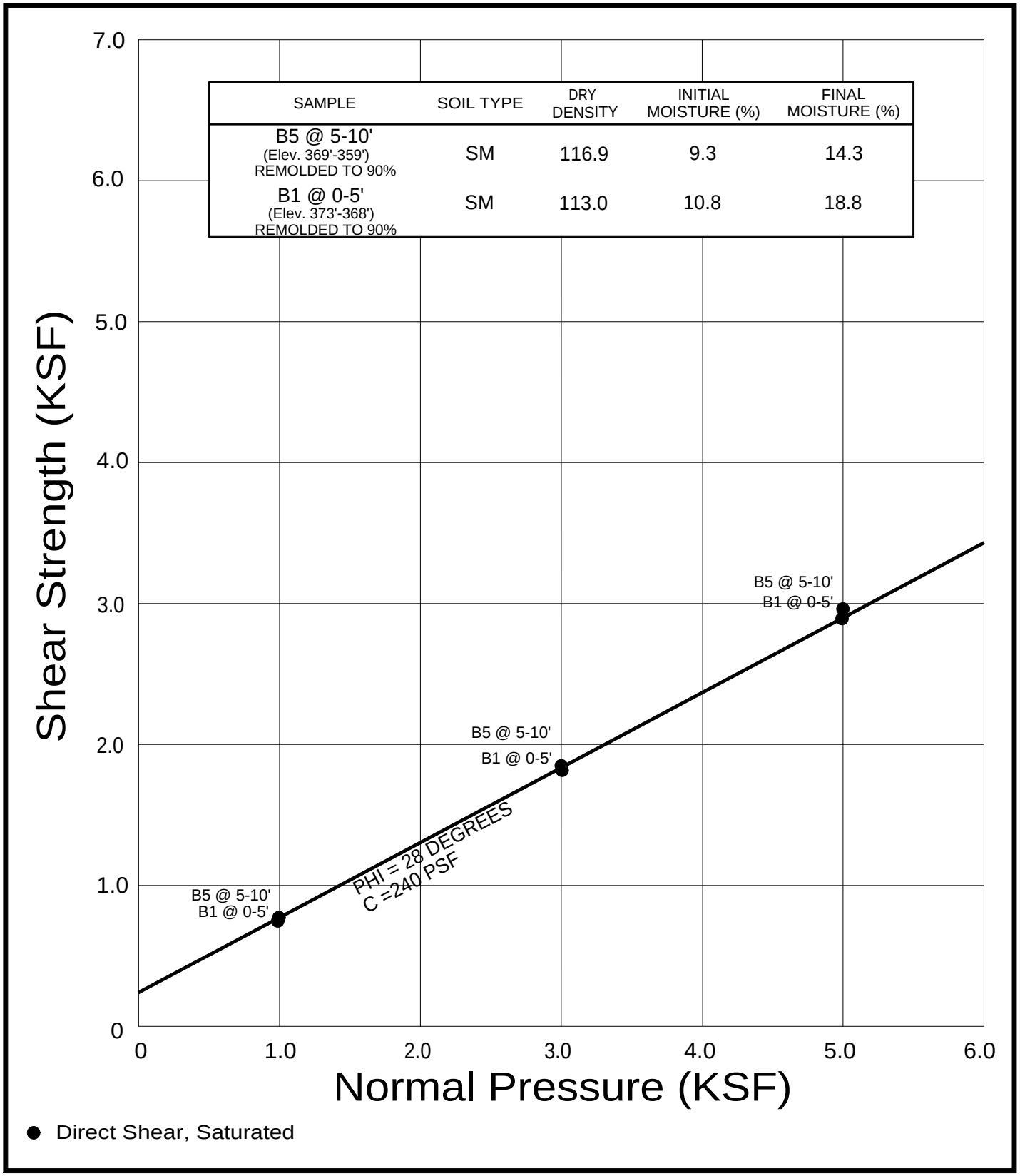
900 WEYBURN PLACE
LOS ANGELES, CALIFORNIA

DEC. 2016 | PROJECT NO. A9060-06-11 | FIG. B3



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DIRECT SHEAR TEST RESULTS

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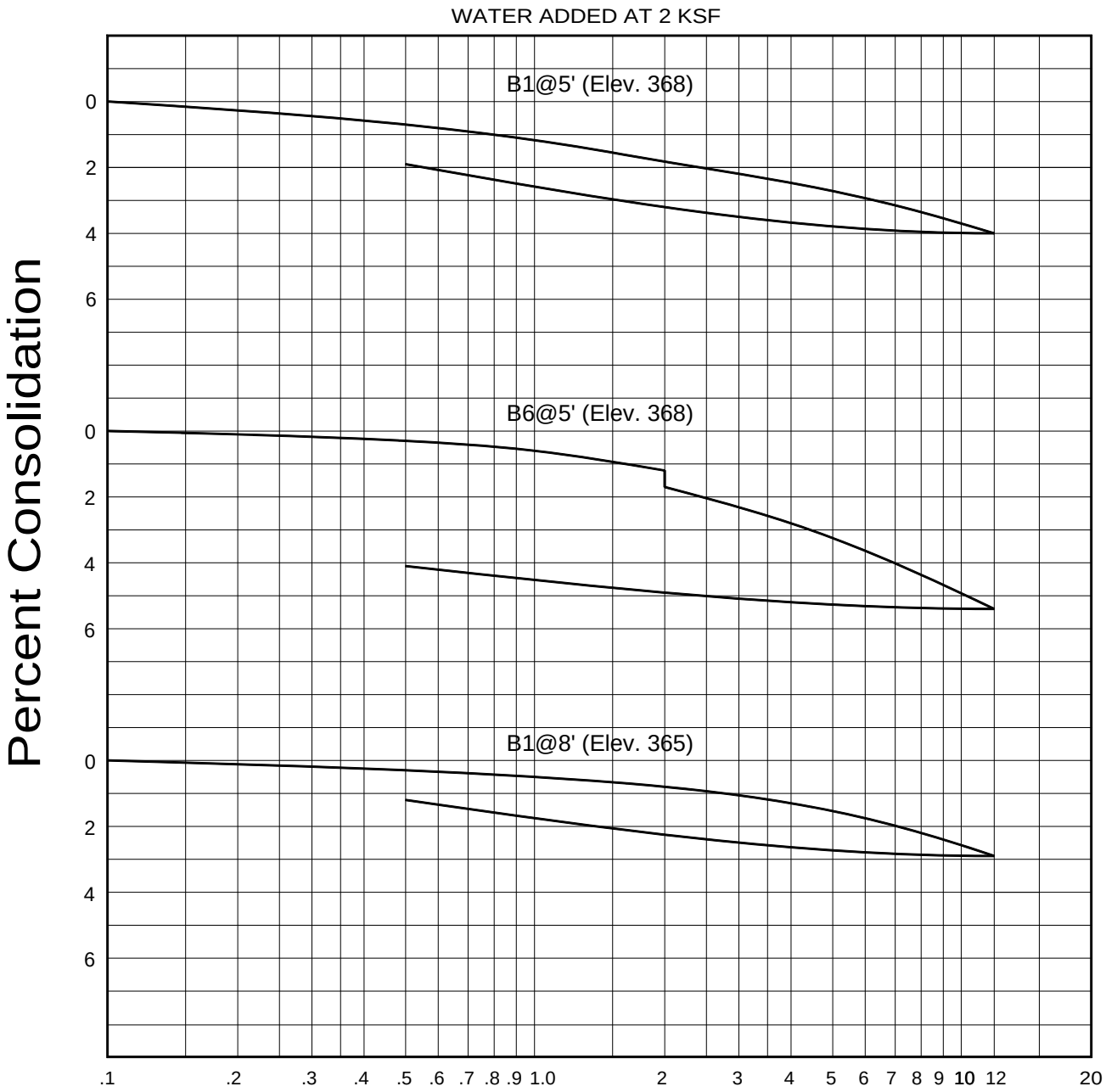
DEC. 2016 | PROJECT NO. A9060-06-11 | FIG. B4



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CONSOLIDATION TEST RESULTS

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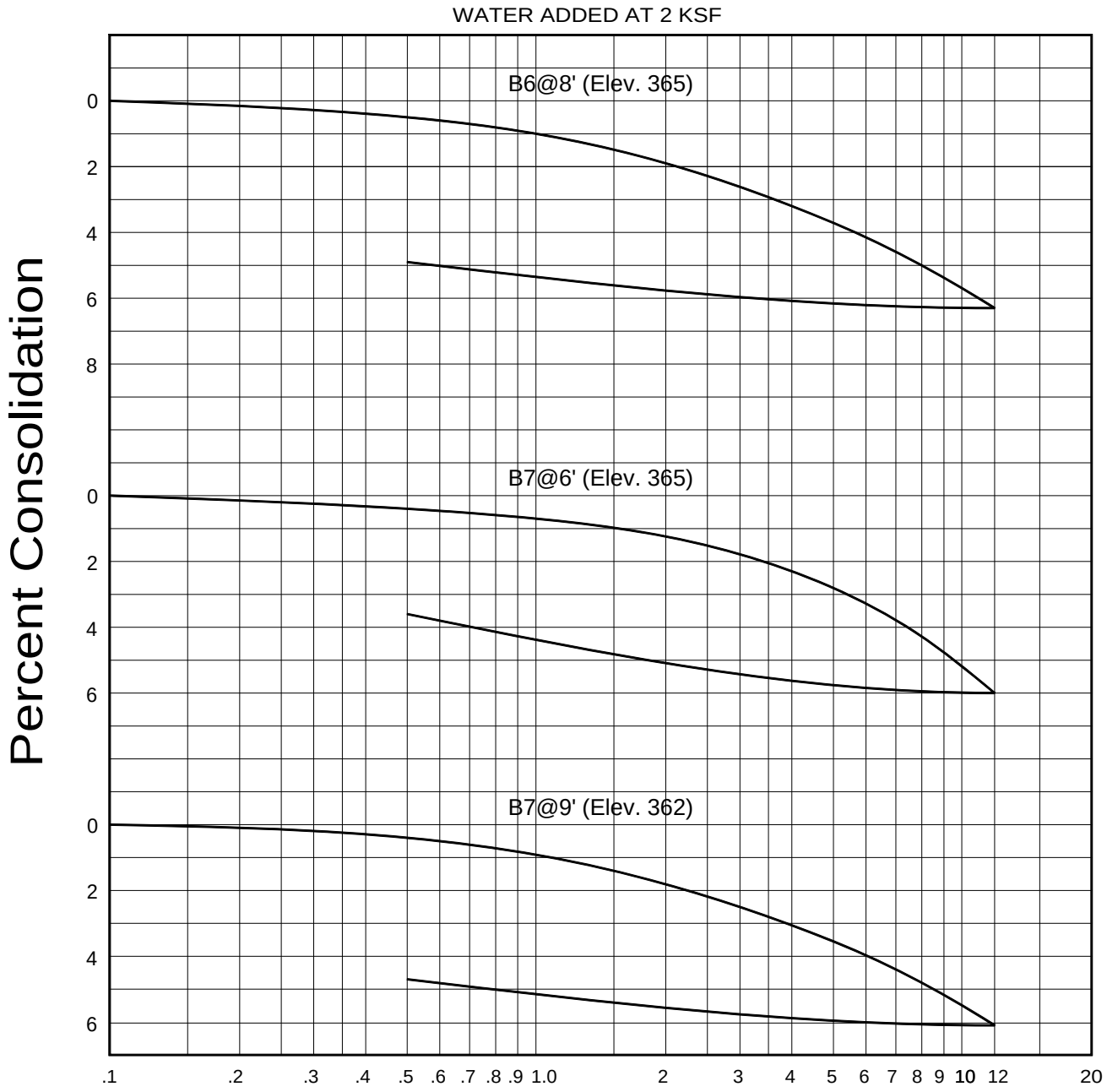
DEC. 2016	PROJECT NO. A9060-06-11	FIG. B5



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CONSOLIDATION TEST RESULTS

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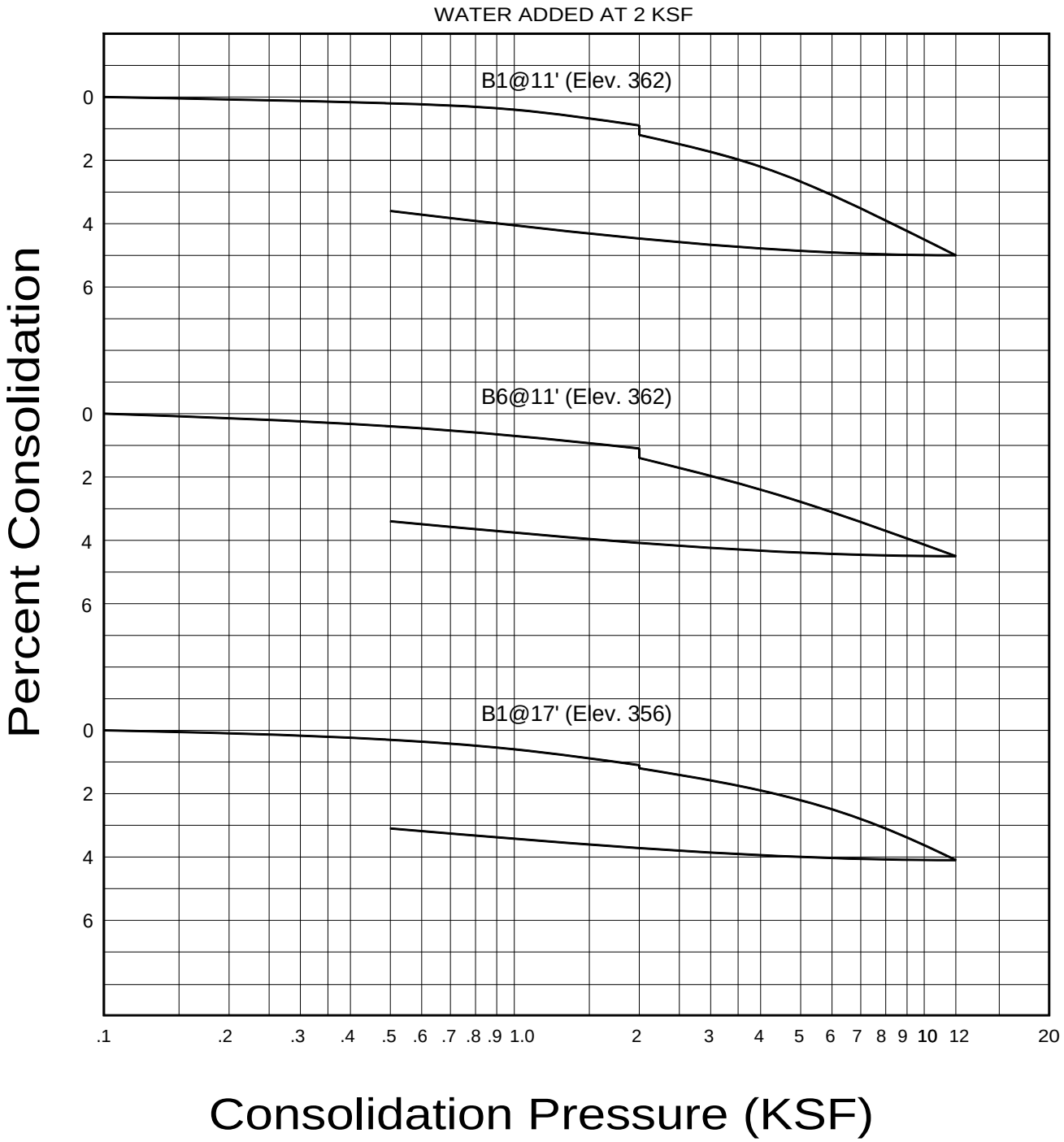
DEC 2016	PROJECT NO. A9060-06-11	FIG. B6



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CONSOLIDATION TEST RESULTS

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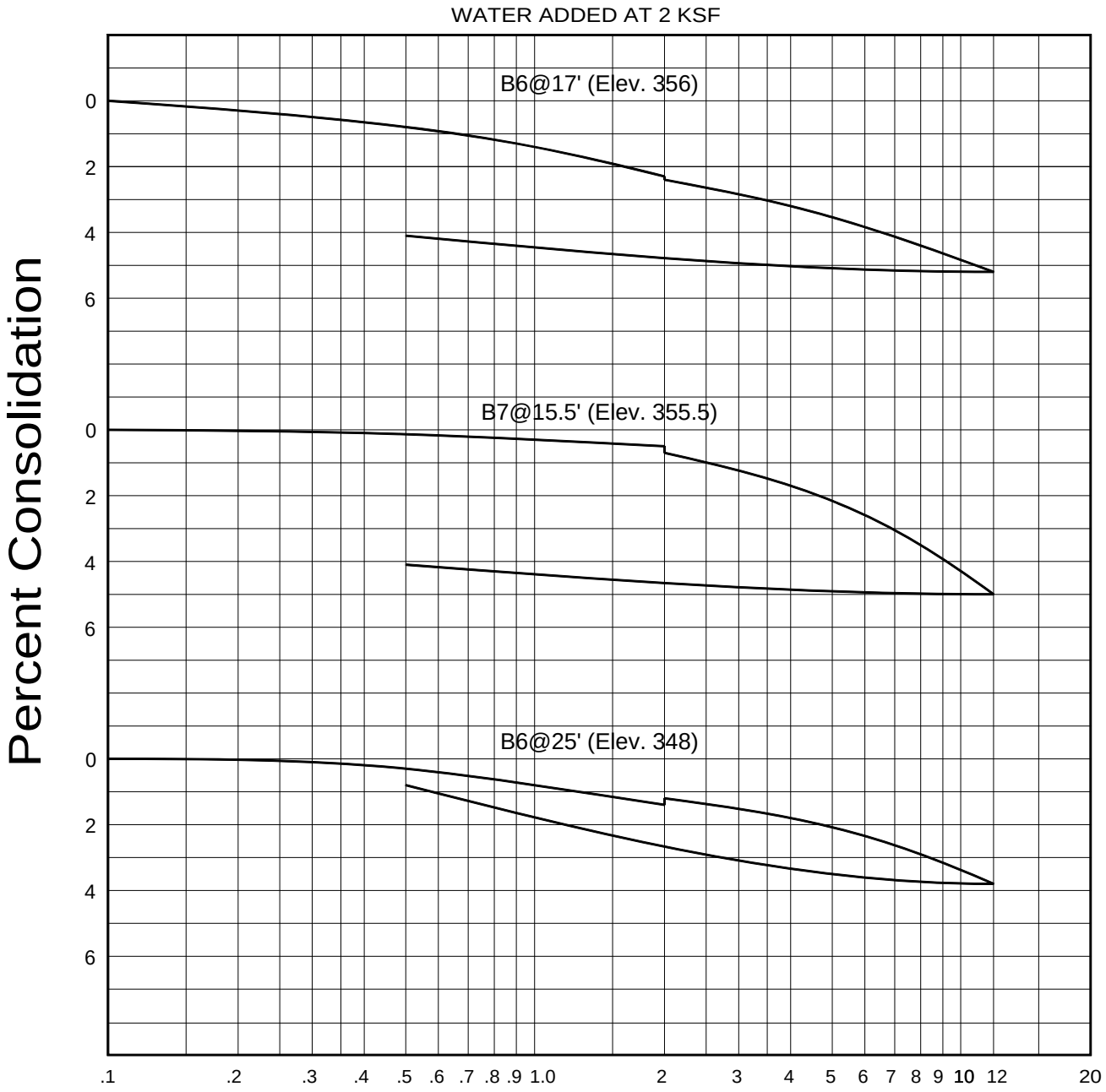
DEC 2016	PROJECT NO. A9060-06-11	FIG. B7



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CONSOLIDATION TEST RESULTS

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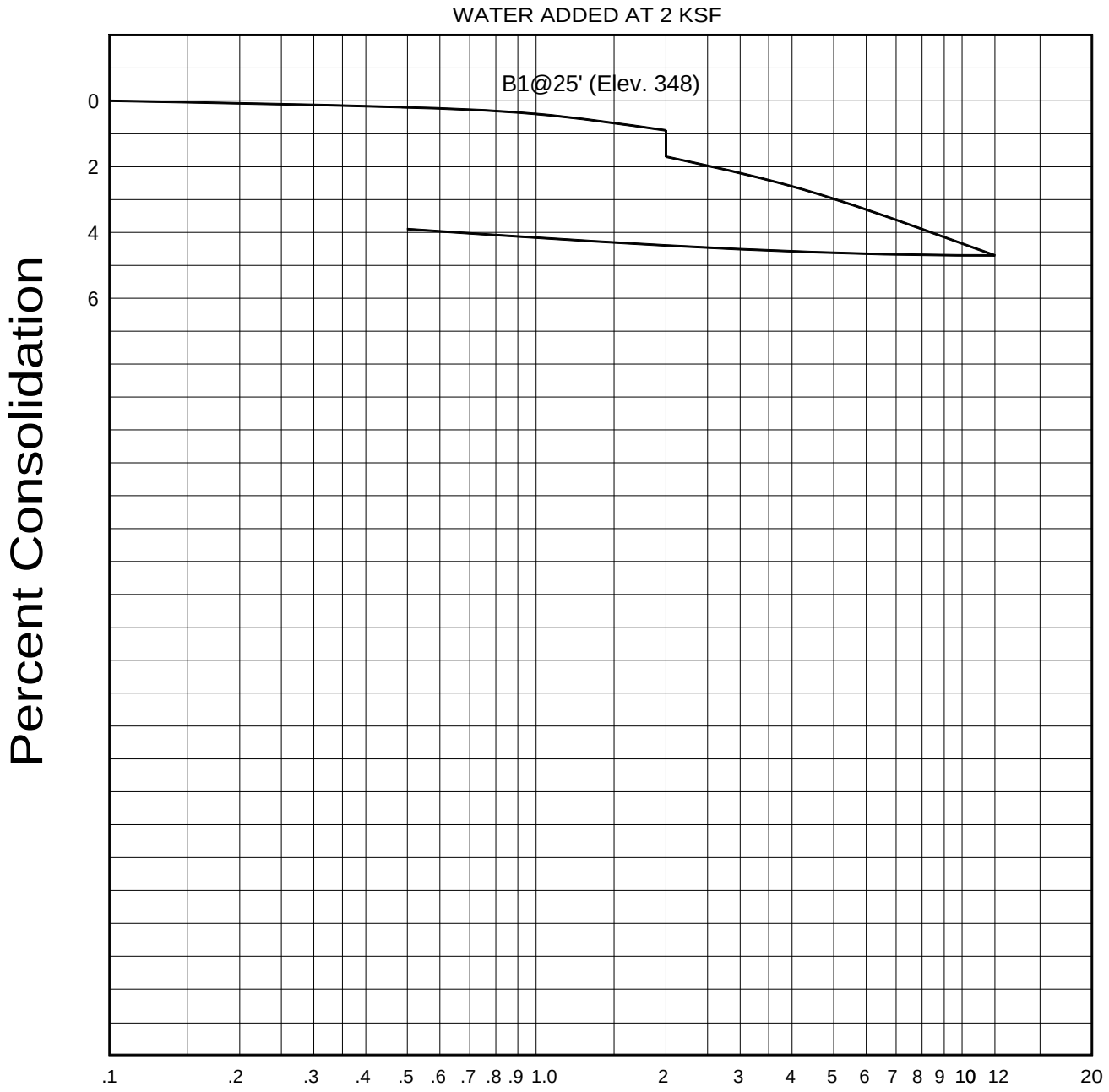
DEC 2016	PROJECT NO. A9060-06-11	FIG. B8



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CONSOLIDATION TEST RESULTS

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LOS ANGELES, CALIFORNIA

DEC 2016	PROJECT NO. A9060-06-11	FIG. B9

SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-11

Sample No.	Moisture Content (%)		Dry Density (pcf)	Expansion Index	*UBC Classification	**CBC Classification
	Before	After				
B1 @ 0-5' (Elev. 373'-368')	9.5	21.9	110.4	40	Low	Expansive
B2 @ 5-10' (Elev. 374'-369')	8.6	18.6	115.3	24	Low	Expansive
B5 @ 5-10' (Elev. 369'-364')	8.3	15.0	117.2	23	Low	Expansive

* Reference: 1997 Uniform Building Code, Table 18-I-B.

** Reference: 2016 California Building Code, Section 1803.5.3

SUMMARY OF LABORATORY MAXIMUM DENSITY AND AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-12

Sample No.	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture (%)
B1 @ 0-5' (Elev. 373'-368')	Brown Silty Sand	125.5	10.5
B2 @ 5-10' (Elev. 374'-369')	Brown Sandy Silt	127.0	9.0
B5 @ 5-10' (Elev. 369'-364')	Brown Silty Sand	132.0	8.5

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LABORATORY TEST RESULTS

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900 WEYBURN PLACE
LOS ANGELES, CALIFORNIA

DEC. 2016 | PROJECT NO. A9060-06-11 | FIG. B10

SUMMARY OF LABORATORY POTENTIAL OF HYDROGEN (pH) AND RESISTIVITY TEST RESULTS CALIFORNIA TEST NO. 643

Sample No.	pH	Resistivity (Ohm Centimeters)
B1 @ 0-5' (Elev. 373'-368')	8.5	2100 (Moderately Corrosive)
B2 @ 5-10' (Elev. 374'-369')	7.8	540 (Severely Corrosive)
B5 @ 5-10' (Elev. 369'-364')	6.7	1600 (Corrosive)

SUMMARY OF LABORATORY CHLORIDE CONTENT TEST RESULTS EPA NO. 325.3

Sample No.	Chloride Ion Content (%)
B1 @ 0-5' (Elev. 373'-368')	0.019
B2 @ 5-10' (Elev. 374'-369')	0.068
B5 @ 5-10' (Elev. 369'-364')	0.007

SUMMARY OF LABORATORY WATER SOLUBLE SULFATE TEST RESULTS CALIFORNIA TEST NO. 417

Sample No.	Water Soluble Sulfate (% SO_4)	Sulfate Exposure*
B1 @ 0-5' (Elev. 373'-368')	0.008	Negligible
B2 @ 5-10' (Elev. 374'-369')	0.030	Negligible
B5 @ 5-10' (Elev. 369'-364')	0.038	Negligible

* Reference: 2016 California Building Code, Section 1904.3 and ACI 318-11 Section 4.3.

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CORROSIVITY TEST RESULTS

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LOS ANGELES, CALIFORNIA

DEC. 2016 | PROJECT NO. A9060-06-11 | FIG. B11

PRELIMINARY GEOTECHNICAL INVESTIGATION

PROPOSED STUDENT HOUSING DEVELOPMENT
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

GEOCON
WEST, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

UCLA CAPITAL PROGRAMS
LOS ANGELES, CALIFORNIA

PROJECT NO. A9060-06-09

DECEMBER 29, 2016

GEOCON
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GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. A9060-06-09
December 29, 2016

Eric Heggen
UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, California 90095

Subject: PRELIMINARY GEOTECHNICAL INVESTIGATION
PROPOSED STUDENT HOUSING DEVELOPMENT
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

Dear Mr. Heggen

In accordance with your authorization of our proposal dated August 19, 2016, we have prepared this preliminary geotechnical investigation report for the proposed student housing development to be located at 10995 Le Conte Avenue in the City of Los Angeles California. The accompanying report presents the findings of our study, and our conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction. Based on the results of our investigation, it is our opinion that the site can be developed as proposed provided the recommendations in this report are followed and implemented during design and construction.

The primary intent of this report is to address the potential geologic hazards and geotechnical conditions that could impact site development and to provide preliminary recommendations. Additional analyses will be required in order to provide comprehensive geotechnical recommendations for design and construction.
If you have any questions regarding this report, or if we may be of further service, please contact the undersigned.

Very truly yours,

GEOCON WEST, INC.

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(4+CD+EMAIL) Addressee

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- LABORATORY TESTING
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PRELIMINARY GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a preliminary geotechnical investigation for a proposed student housing development to be located at 10995 Le Conte Avenue in the City of Los Angeles California (see Vicinity Map, Figure 1). The purpose of the investigation was to evaluate subsurface soil and geologic conditions underlying the site and, based on conditions encountered, to provide conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction. Due to the preliminary nature of the project at this time, the primary intent of this report is to address the potential geologic hazards and geotechnical conditions that could impact site development and to provide preliminary recommendations. Additional analyses will be required in order to provide comprehensive geotechnical recommendations for design and construction.

The scope of our investigation included a site reconnaissance, field exploration, laboratory testing, engineering analysis, and the preparation of this report. The site was explored on November 11 and 12, 2016, by excavating three 8-inch diameter borings utilizing a hollow stem auger drilling machine and one 4-inch diameter boring utilizing hand tools. The borings were excavated to depths ranging between 19½ feet (350 feet MSL) and 70½ feet (353 MSL) below the existing ground surface. The approximate locations of the exploratory borings are depicted on the Site Plan (see Figure 2). A detailed discussion of the field exploration, including boring logs, is presented in Appendix A.

Laboratory tests were performed on selected soil samples obtained during the investigation to determine pertinent physical and chemical soil properties. Appendix B presents a summary of the laboratory test results.

The recommendations presented herein are based on analysis of the data obtained during the investigation and our experience with similar soil and geologic conditions. References reviewed to prepare this report are provided in the *List of References* section.

If project details vary significantly from those described above, Geocon should be contacted to determine the necessity for review and possible revision of this report.

2. SITE AND PROJECT DESCRIPTION

The subject site is located at 10995 Le Conte Avenue in the City of Los Angeles, California. The site is an irregular shaped parcel and is currently occupied by an eight-story structure with associated paved parking. The site is bounded by Levering Avenue on the west, by Le Conte Avenue to the south, by Gayley Avenue to the east, and by four- and five-story residential structures to the north. Surface water drainage at the site appears to be by sheet flow along the existing ground contours toward the city streets and site drainage. Vegetation on site consists of plants, bushes, shrubs, and trees located in isolated planter areas.

Based on the information provided to us by the Client, it is our understanding that the proposed development will consist of an eight- to twelve-story student housing structure. Due to the preliminary nature of the project, formal plans depicting the proposed development are not available for inclusion in this report. It is assumed that the proposed structure will be constructed at the grade elevation of Le Conte Avenue (approximately 343 feet MSL), and tucked into the existing slope at the north end of the site. Topography at the site slopes gently to the south and site elevations range from approximately Elevation 353 MSL on the north to Elevation 343 MSL adjacent to Le Conte Avenue on the south. Due to the sloping nature of the site, and lack of a specific layout of proposed structures, additional exploration and/or a revised geotechnical investigation report may be necessary once final floor elevations are determined.

Due to the preliminary nature of the design at this time, it has been estimated that column loads for the proposed structure may be up to 1,800 kips. Wall loads are for the proposed structure may be up to 18 kips per linear foot.

Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

3. GEOLOGIC SETTING

The site is located on an older alluvial fan surface along the western edge of the ancestral Stone Canyon drainage, approximately 0.7 mile south of the southern flank of the Santa Monica Mountains. The Santa Monica Mountains, formed during regional uplift, trend east-west on the north side of the Los Angeles Basin and constitute the northern basin boundary. Structurally, the Santa Monica Mountains are a broad west-plunging anticline. The south flank of the anticline is truncated by the Hollywood-Santa Monica Fault Zone which separates the mountain range from the Los Angeles Basin to the south. Rock types exposed in the eastern Santa Monica Mountains consist of metasedimentary rocks associated with the Jurassic age Santa Monica Slate, Cretaceous age igneous rocks, and Cretaceous age and Miocene age sedimentary rocks.

Regionally, the site is located in the Transverse Ranges geomorphic province, near the boundary with the Peninsular Ranges geomorphic province. The Transverse Ranges geomorphic province is characterized by east-west trending geologic structures in contrast to northwest-trending geologic structures in the Peninsular Ranges geomorphic province. The boundary between the Peninsular Ranges and the Transverse Ranges geomorphic provinces in the site vicinity is the Santa Monica Fault Zone located approximately 1.0 mile to the south.

4. SOIL AND GEOLOGIC CONDITIONS

Based on our field investigation and published geologic maps of the area, the site is underlain by artificial fill that is in turn underlain by Pleistocene age older alluvium consisting of gravel, sand, silt and clay derived from the Santa Monica Mountains to the north (California Geological Survey, 2010). Detailed stratigraphic profiles of the materials encountered at the site are provided on the boring logs in Appendix A.

4.1 Artificial Fill

Artificial fill was encountered in our field explorations to a maximum depth of 4 feet below existing ground surface. The artificial fill generally consists of brown to yellowish brown sand with silt, and well-graded sand with gravel. The artificial fill is characterized as slightly moist and medium dense to dense. The fill is likely the result of past grading or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored.

4.2 Older Alluvium

The fill is underlain by Pleistocene age older alluvium that consists primarily of dark yellowish brown, reddish brown or grayish brown interbedded clayey silt, sandy silt, clay, silty sand, and well-graded to poorly graded sand with gravel. The older alluvium is characterized as stiff to hard or medium dense to very dense, and slightly moist to wet.

5. GROUNDWATER

Review of the Seismic Hazard Zone Report for the Beverly Hills Quadrangle (California Division of Mines and Geology [CDMG], 1998), the historically highest groundwater level in the area is approximately 35 feet beneath the ground surface. Groundwater information presented in this document is generated from data collected in the early 1900's to the late 1990s. Based on current groundwater basin management practices, it is unlikely that groundwater levels will ever exceed the historic high levels.

Groundwater was encountered in boring B2 at a depth of 47.2 feet below the existing ground surface. Considering the historic high groundwater level and the depth to groundwater encountered in our borings, groundwater will likely not be encountered during construction. However, if multiple subterranean levels are planned or if the groundwater levels rise to historic high levels, there is a potential for groundwater to impact the proposed development. Also, it is not uncommon for groundwater levels to vary seasonally or for groundwater seepage conditions to develop where none previously existed, especially in impermeable fine-grained soils which are heavily irrigated or after seasonal rainfall. In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the immediate site vicinity. Proper surface drainage of irrigation and precipitation will be critical for future performance of the project. Recommendations for drainage are provided in the S*urface Drainage* section of this report (see Section 7.18).

6. GEOLOGIC HAZARDS

6.1 Surface Fault Rupture

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (CGS, formerly known as CDMG) for the Alquist-Priolo Earthquake Fault Zone Program (Bryant and Hart, 2007). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a state-designated Alquist-Priolo Earthquake Fault Zone (CGS, 2016) or a city-designated Preliminary Fault Rupture Study Area (City of Los Angeles, 2016) for surface fault rupture hazards. No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low. However, the site is located in the seismically active Southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults. The faults in the vicinity of the site are shown in Figure 3, Regional Fault Map.

The nearest surface trace of an active fault to the site is the Santa Monica Fault located approximately 1.0 mile to the south (Ziony and Jones, 1989; City of Los Angeles, 2016). Other nearby active faults are the Newport-Inglewood Fault Zone, the Hollywood Fault, the Malibu Coast Fault, the Raymond Fault, the Verdugo Fault, and the Palos Verdes Hills Fault located approximately 1.8 miles northeast, 2.0 miles northeast, 6.3 miles west, 13.2 miles northeast, 13.4 miles northeast, and 17 miles south-southwest of the site, respectively (Ziony and Jones, 1989). The active San Andreas Fault Zone is located approximately 38 miles northeast of the site (Ziony and Jones, 1989).

The closest potentially active fault to the site is the Overland Fault located approximately 2.4 miles to the southeast (Ziony and Jones, 1989). Other nearby potentially active faults are the Charnock Fault and the MacArthur Park Fault located approximately 3.8 miles south and 9.6 miles east of the site, respectively (Ziony and Jones, 1989).

Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3.0 kilometers. The October 1, 1987 M_w 5.9 Whittier Narrows earthquake and the January 17, 1994 M_w 6.7 Northridge earthquake were a result of movement on the Puente Hills Blind Thrust and the Northridge Thrust, respectively. These thrust faults and others in the Los Angeles area are not exposed at the surface and do not present a potential surface fault rupture hazard at the site; however, these deep thrust faults are considered active features capable of generating future earthquakes that could result in moderate to significant ground shaking at the site.

6.2 Seismicity

As with all of Southern California, the site has experienced historic earthquakes from various regional faults. The seismicity of the region surrounding the site was formulated based on research of an electronic database of earthquake data. The epicenters of recorded earthquakes with magnitudes equal to or greater than 5.0 in the site vicinity are depicted on Figure 4, Regional Seismicity Map. A partial list of moderate to major magnitude earthquakes that have occurred in the Southern California area within the last 100 years is included in the following table.

LIST OF HISTORIC EARTHQUAKES

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
San Jacinto-Hemet area	April 21, 1918	6.8	86	ESE
Near Redlands	July 23, 1923	6.3	69	E
Long Beach	March 10, 1933	6.4	41	SE
Tehachapi	July 21, 1952	7.5	72	NW
San Fernando	February 9, 1971	6.6	24	N
Whittier Narrows	October 1, 1987	5.9	21	E
Sierra Madre	June 28, 1991	5.8	29	ENE
Landers	June 28, 1992	7.3	115	E
Big Bear	June 28, 1992	6.4	93	E
Northridge	January 17, 1994	6.7	11	NW
Hector Mine	October 16, 1999	7.1	130	ENE

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the proposed structures are designed and constructed in conformance with current building codes and engineering practices.

6.3 Ground Motion Hazard Analysis

Ground motion hazard analyses were performed in accordance with ASCE 7-10 and Section 1613 of the 2016 CBC utilizing the computer program EZFRISK (version 7.65) in conjunction with data from the U.S. Seismic Design Maps web application provided by the USGS.

6.3.1 Probabilistic Seismic Hazard Analysis

The probabilistic Maximum Considered Earthquake (MCE_R) response spectrum consists of the spectral response accelerations which are expected to achieve a 1 percent probability of collapse within a 50-year period, evaluated at 5 percent damping. The procedure described in ASCE 7-10 Section 21.2.1.1 as Method 1 was used to evaluate the probabilistic response spectrum.

The spectral response accelerations having a 2 percent chance of exceedance in 50 years were evaluated at 5 percent damping. The probabilistic analysis was performed using the ground motion prediction equations (GMPEs) of Abrahamson and Silva (2008) NGA MRC (next generation attenuation, maximum rotated component), Boore and Atkinson (2008) NGA USGS 2008 MRC, Campbell-Bozorgnia (2008) NGA USGS 2008 MRC, and Chiou-Youngs (2007) NGA USGS 2008 MRC. Each GMPE was assigned an equal weight and the maximum rotated component of ground motion derived from the relationships was evaluated. It is our opinion that the use of these four GMPEs is appropriate for the subject site.

The probabilistic analysis was performed by evaluating the ground motions generated by active faults within a 120 mile (200 kilometer) radius of the site. The soil underlying the site was modeled with a Site class located on the boundary of Site Classes "C" and "D". This is based on the relatively dense nature of the older alluvial deposits, as well as information available from the Community Velocity Model (CVM) Version 4 developed by Southern California Earthquake Data Center (SCEDC). An average shear wave velocity (V_S30) of 360 meters per second was used for the analysis.

The GMPE of Campbell and Borzorgnia requires that the depth to where the shear wave velocity reaches 2.5 kilometers per second (Z2.5) be defined. Additionally, the GMPE of Abrahamson and Silva requires that the depth to where the shear wave velocity reaches 1 kilometer per second (Z1.0) be defined. The values of Z2.5 and Z1.0 were estimated using data from the Community Velocity Model (CVM) Version 4 developed by Southern California Earthquake Data Center (SCEDC). The values of Z2.5 and Z1.0 used in the analysis are 1.04 kilometers and 310 meters, respectively.

According to ASCE 7-10 Section 21.2.1.1 Method 1, the probabilistic MCE_R spectral response accelerations may be determined as the product of the spectral response accelerations having a 2 percent chance of exceedance in 50 years and the risk coefficient C_R. The value of C_R at 0.2 seconds (C_{RS}) and 1 second (C_{R1}) were determined from ASCE 7-10 Figures 22-17 and 22-18, respectively. At spectral response accelerations less than or equal to 0.2 seconds, the value of C_R was taken as C_{RS} and at spectral response accelerations greater than or equal to 1.0 seconds the value of C_R was taken as C_{R1}. Liner interpolation was used to evaluate the values of C_R between 0.2 and 1.0 seconds.

6.3.2 Deterministic Seismic Hazard Analysis

The deterministic analysis was performed using the same GMPEs as the probabilistic analysis, as well as the same active faults within a within a 120 mile (200 kilometer) radius of the site and the same values of Z1.0 and Z2.5. The 84th percentile of the maximum rotated component of ground motion derived from the GMPEs was evaluated.

Based on the results of the analysis, the fault source resulting in the highest spectral accelerations from 0 to 4 seconds would be a magnitude 7.4 event on the Santa Monica fault.

The 84th percentile of the maximum rotated component of ground motion was compared to the Deterministic Lower Limit MCE_R response spectrum, and the maximum values taken as the deterministic MCE_R response spectrum.

6.3.3 Site-Specific Response Spectrum

The lesser of the probabilistic and deterministic MCE_R response spectrums is the Site-Specific MCE_R. Two-thirds of the Site-Specific MCE_R is the Design Earthquake (DE) Response Spectrum, provided the results are not less than 80 percent of the General Design Response Spectrum determined by ASCE 7-10 Section 11.4.5.

Graphical representations of the analyses are presented on Figures 5 and 6. The Site-Specific Design Earthquake response spectrum at 5 percent damping is presented on Figure 6 and as Table 1.

6.3.4 Mapped Acceleration Parameters

The following table summarizes the mapped acceleration parameters obtained from the 2016 California Building Code (CBC; Based on the 2015 International Building Code [IBC] and ASCE 7-10), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The data was calculated using the computer program U.S. Seismic Design Maps, provided by the USGS. The short spectral response uses a period of 0.2 second.

MAPPED SPECTRAL ACCELERATIONS

Parameter	Value	2016 CBC Reference
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	2.246g	Figure 1613.3.1(1)
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.823g	Figure 1613.3.1(2)

6.3.5 Site-Specific Seismic Design Criteria

Based the site-specific ground motion hazard analysis performed, and in accordance with the ASCE 7-10 Section 21.4, site-specific seismic design parameters shall be derived using the results of the site-specific ground motion hazard analysis.

The parameter S_{DS} shall be obtained from the site-specific spectra at a period of 0.2 second and not less than 90 percent of the peak spectra acceleration at any period larger than 0.2 second. The parameter S_{D1} shall be taken as the greater of the site-specific spectral acceleration at a period of 1.0 second or twice the spectral acceleration at a period of 2 seconds (whichever is greater). The values of S_{MS} and S_{M1} shall be taken as 1.5 times the site-specific values of S_{DS} and S_{D1}. The site-specific seismic design parameters shall not be less than 80 percent of the general seismic design values determined by ASCE 7-10 Section 11.4.

The following table presents the site-specific seismic design parameters based on the site-specific ground motion hazard analysis.

SITE-SPECIFIC SEISMIC DESIGN PARAMETERS

Parameter	Value
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	2.178g
Site Class Modified MCE_R Spectral Response Acceleration – (1 sec), S_{M1}	1.386g
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.452g
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.924g

6.3.6 Site-Specific Peak Ground Acceleration

The site-specific Maximum Considered Earthquake (MCE_G) geometric mean peak ground acceleration was evaluated in accordance with ASCE 7-10 Section 21.5.

The probabilistic geometric mean peak ground acceleration was evaluated using the computer program EZFrisk. The analysis was performed using the GMPE of Abrahamson and Silva (2008) NGA (next generation attenuation), Boore and Atkinson (2008) NGA USGS 2008, Campbell-Bozorgnia (2008) NGA USGS 2008, and Chiou-Youngs (2007) NGA USGS 2008. Each GMPE was assigned an equal weight. The analysis used the same faults, Site Class, and values of Z2.5 and Z1.0 as described above.

The probabilistic geometric mean peak ground acceleration (probabilistic MCE_G) was evaluated at a 2 percent probability of exceedance with a 50 year period.

The deterministic geometric mean peak ground acceleration (deterministic MCE_G) was evaluated as the 84th percentile geometric mean peak ground acceleration. The deterministic MCE_G shall not be less than $0.5F_{PGA}$, where F_{PGA} is determined from ASCE 7-10 Table 11.8-1 with the value of PGA taken as 0.5g.

The site-specific MCE_G peak ground acceleration is taken as the lesser of the probabilistic and deterministic MCE_G, provided the value is not less than 80 percent of the value of PGA_M as determined by ASCE 7-10 Equation 11.8.1.

ASCE 7-10 SITE-SPECIFIC PEAK GROUND ACCELERATION

Parameter	Value	ASCE 7-10 Reference
Site-Specific MCE_G Peak Ground Acceleration, PGA_M	0.908g	Section 21.5

6.4 Liquefaction Potential

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The current standard of practice, as outlined in the "Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California" and "Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California" requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction.

A review of the State of California Seismic Hazard Zone Map for the Beverly Hills Quadrangle (CDMG, 1999) indicates that the site is not located in an area identified as having a potential for liquefaction. Also, the Safety Element of the Los Angeles County General Plan (Leighton, 1990) and the Safety Element of the City of Los Angeles General Plan (1996), indicate the site is not located within an area identified as having a potential for liquefaction.

As stated previously, the soils encountered at the site are Pleistocene age older alluvial deposits. Due to the generally dense nature of these deposits, they are not typically prone to liquefaction. Also, the historic high groundwater level is reported to be in excess of 35 feet below the existing ground surface. Based on these considerations, it is our opinion that the potential for liquefaction of the site soils is very low, and no surface manifestations of liquefaction are expected at the subject site.

6.6 Slope Stability

Topography at the site slopes gently to the south and site elevations range from approximately Elevation 353 MSL on the north to Elevation 343 MSL adjacent to Le Conte Avenue on the south. The site is located within a city of Los Angeles Hillside Grading Area but not located within a city of Los Angeles Hillside Ordinance Area. Also, the site is not located in an area identified as having a potential for seismic slope instability (CDMG, 1999). There are no known landslides near the site, nor is the site in the path of any known or potential landslides. Landslides or unstable slopes are not considered a potential hazard at the site.

6.7 Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. The Los Angeles County Safety Element (Leighton, 1990) indicates that the site is located within the Stone Canyon Reservoir inundation area. However, this reservoir, as well as others in California, are continually monitored by various governmental agencies (such as the State of California Division of Safety of Dams and the U.S. Army Corps of Engineers) to guard against the threat of dam failure. Current design, construction practices, and ongoing programs of review, modification, or total reconstruction of existing dams are intended to ensure that all dams are capable of withstanding the maximum considered earthquake (MCE) for the site. Therefore, the potential for inundation at the site as a result of an earthquake-induced dam failure is considered low.

6.8 Tsunamis, Seiches and Flooding

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. Flooding from a seismically-induced seiche is considered unlikely.

The site is in an area of minimal flooding potential (Zone X) as defined by the Federal Insurance Administration (FEMA, 2008).

6.9 Oil Fields & Methane Potential

Based on a review of the California Division of Oil, Gas and Geothermal Resources (DOGGR) Oil and Gas Well Location Map W1-5, the site is not located within the boundaries of an oilfield. The closest documented oil well to the site is a plugged and abandoned dry hole (ChevronTexaco Expl & Prod Co. 'Moon' 1) located approximately 400 feet to the south. Due to the voluntary nature of record reporting by the oil well drilling companies, wells may be improperly located or not shown on the location map. Undocumented wells could be encountered during construction. Any wells encountered will need to be properly abandoned in accordance with the current requirements of the DOGGR.

The site is located within the boundaries of a city-designated Methane Buffer Zone (City of Los Angeles, 2016). A methane study may be required for future site development. We recommend that a qualified methane consultant be retained to perform the study and provide mitigation measures as necessary.

6.10 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

7.1.1 It is our opinion that neither soil nor geologic conditions were encountered during this investigation that would preclude the construction of the proposed development provided the recommendations presented herein are followed and implemented during design and construction.

7.1.2 Existing artificial fill was encountered to an elevation of approximately 346 feet MSL during the site investigation. The existing fill encountered is believed to be the result of past grading and construction activities at the site. Deeper fill may exist in other areas of the site that were not directly explored. It is assumed that the proposed structure will be constructed at the grade elevation of Le Conte Avenue (approximately 343 feet MSL); therefore, the proposed structure is anticipated to penetrate through the existing fill and expose competent older alluvial soils throughout the excavation bottom. The existing fill and site soils are suitable for re-use as engineered fill provided the recommendations in the Grading section of this report are followed (see Section 7.4).

7.1.3 Based on these considerations, the proposed structure may be supported on a conventional foundation system deriving support in the dense competent alluvial soils. Competent alluvial soils are generally found at or below an elevation of 343 feet MSL. Foundations should be deepened as necessary to penetrate through any existing fill and unsuitable alluvial soils in order to derive support in dense competent alluvial soils. All foundation excavations must be observed and approved in writing by the Geotechnical Engineer prior to placement of steel or concrete. Recommendations for the design of a conventional foundation system are provided in Section 7.5.

7.1.4 Once proposed building loads become available and elevations are established, additional analyses will be required to evaluate the anticipated total and differential settlements between the foundation elements. Updated foundation design recommendations will be provided as necessary under separate cover.

7.1.5 The concrete slab-on-grade may derive support on newly placed engineered fill and/or directly on undisturbed alluvial soils. Any soils that are disturbed should be compacted for slab support. Where necessary, the existing artificial fill and alluvial soils are suitable for re-use as an engineered fill provided the procedures outlined in the Grading section of this report are followed (see Section 7.4).

7.1.6 Excavations on the order of 15 feet in vertical height are anticipated for construction based on the assumption that the north end of the structure will be tucked into the existing grade. Due to the depth of the excavation and the proximity to the property lines, city streets and adjacent offsite structures, excavation of the proposed subterranean (tucked in) portion of the structure will require sloping and/or shoring measures in order to provide a stable excavation. Where shoring is required it is recommended that a soldier pile shoring system be utilized. In addition, where the proposed excavation will be deeper than and adjacent to an offsite structure, the proposed retaining wall and shoring systems should be designed to resist the surcharge imposed by the adjacent offsite structure. Recommendations for shoring are provided in Section 7.16.

7.1.7 Due to the nature of the proposed design and intent for subterranean levels, waterproofing of subterranean walls and slabs is suggested. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.1.8 Foundations for small outlying structures, such as block walls up to 6 feet in height, planter walls or trash enclosures, which will not be tied to the proposed structure, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill. Where excavation and compaction cannot be performed or is undesirable, foundations may derive support directly in the undisturbed competent alluvial soils and must be observed and approved by a Geocon representative. If the soils exposed in the excavation bottom are soft, compaction of the soft soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

7.1.9 Based on the results of percolation testing performed at the site, a stormwater infiltration system is not recommended for this project. It is recommended that stormwater be retained, filtered, and discharged in accordance with the requirements of the local governing agency.

7.1.10 Once the design and foundation loading configuration for the proposed structures proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Based on the final foundation loading configurations, the potential for settlement should be re-evaluated by this office.

7.1.11 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

7.1.12 The most recent ASTM standards apply to this project and must be utilized, even if older ASTM standards are indicated in this report.

7.2 Soil and Excavation Characteristics

7.2.1 The in-situ soils can be excavated with moderate effort using conventional excavation equipment. Some caving should be anticipated in unshored excavations, especially where granular soils are present.

7.2.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of existing adjacent improvements.

7.2.3 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping or shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 7.15).

7.2.4 The upper 5 feet of existing site soils encountered during this investigation are considered to have a "low" expansive potential (EI = 30); and are classified as "expansive" based on the 2016 California Building Code (CBC) Section 1803.5.3. Recommendations presented herein assume that the building foundations and slabs will derive support in these materials.

7.3 Minimum Resistivity, pH and Water-Soluble Sulfate

7.3.1 Potential of Hydrogen (pH) and resistivity testing, as well as chloride content testing, were performed on representative samples of on-site soil to generally evaluate the corrosion potential to surface utilities. The tests were performed in accordance with California Test Method Nos. 643 and 422 and indicate that the soils are considered "corrosive" with respect to corrosion of buried ferrous metals on site. The results are presented in Appendix B (Figure B8) and should be considered for design of underground structures. Due to the corrosive potential of the soils, it is recommended that ABS pipes are utilized in lieu of cast-iron for subdrains and retaining wall drains.

7.3.2 Laboratory tests were performed on representative samples of the on-site soil to measure the percentage of water-soluble sulfate content. Results from the laboratory water-soluble sulfate tests are presented in Appendix B (Figure B8) and indicate that the on-site soil possess a "negligible" sulfate exposure to concrete structures as defined by 2016 CBC Section 1904 and ACI 318-11 Section 4.2 and 4.3.

7.3.3 Geocon West, Inc. does not practice in the field of corrosion engineering and mitigation. If corrosion sensitive improvements are planned, it is recommended that a corrosion engineer be retained to evaluate corrosion test results and incorporate the necessary precautions to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soils.

7.4 Grading

7.4.1 Grading is anticipated to include excavation of site soils for foundations, utility trenches, and the subterranean portion of the proposed structure, as well as placement of backfill for walls and trenches.

7.4.2 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill encountered during exploration is suitable for re-use as an engineered fill, provided any encountered oversize material (greater than 6 inches) and any encountered deleterious debris is removed.

7.4.3 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer, geotechnical engineer, and, if applicable, building official in attendance. Special soil handling requirements can be discussed at that time.

7.4.4 Grading should commence with the removal of all existing vegetation and existing improvements from the area to be graded. Deleterious debris such as wood and root structures should be exported from the site and should not be mixed with the fill soils. Asphalt and concrete should not be mixed with the fill soils unless approved by the Geotechnical Engineer. All existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein. Once a clean excavation bottom has been established it must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.).

7.4.5 All fill and backfill soils should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to optimum moisture content, and compacted to a minimum 90 percent of the maximum dry density in accordance with ASTM D 1557 (latest edition).

7.4.6 Foundations for small outlying structures, such as block walls up to 6 feet in height, planter walls or trash enclosures, which will not be tied to the proposed structure, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill. Where excavation and compaction cannot be performed or is undesirable, foundations may derive support directly in the undisturbed competent alluvial soils and must be observed and approved by a Geocon representative. If the soils exposed in the excavation bottom are soft, compaction of the soft soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

7.4.7 Although not anticipated for this project, all imported fill shall be observed, tested, and approved by Geocon West, Inc. prior to bringing soil to the site. Rocks larger than 6 inches in diameter shall not be used in the fill. If necessary, import soils used as structural fill should have an expansion index less than 20 and soil corrosivity properties that are equally or less detrimental to that of the existing onsite soils (see Figure B8).

7.4.8 Utility trenches should be properly backfilled in accordance with the requirements of the Green Book (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least 1 foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of Geocon). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of 2-sack slurry is also acceptable as backfill. Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon).

7.4.9 All trench and foundation excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding materials, fill, steel, gravel or concrete.

7.5 Foundation Design

7.5.1 The proposed structure may be supported on a conventional foundation system deriving support in the dense competent alluvial soils generally found at or below an elevation of 343 feet MSL. Foundations should be deepened as necessary to penetrate through any existing fill and unsuitable alluvial soils in order to derive support in dense competent alluvial soils. Foundations should be deepened as necessary at the direction of the Geotechnical Engineer (a representative of Geocon).

7.5.2 Continuous footings may be designed for an allowable bearing capacity of 3,400 pounds per square foot (psf), and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

7.5.3 Isolated spread foundations may be designed for an allowable bearing capacity of 4,000 psf, and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

7.5.4 The allowable soil bearing pressure above may be increased by 300 psf and 600 psf for each additional foot of foundation width and depth, respectively, up to a maximum allowable soil bearing pressure of 6,100.

7.5.5 The allowable bearing pressures may be increased by one-third for transient loads due to wind or seismic forces.

7.5.6 Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Foundation dimensions and allowable bearing pressures may require adjustment to minimize potential differential settlements.

7.5.7 Continuous footings should be reinforced with four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. Reinforcement for spread footings should be designed by the project structural engineer.

7.5.8 If depth increases are utilized for the exterior wall footings, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

7.5.9 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.

7.5.10 No special subgrade presaturation is required prior to placement of concrete. However, the slab and foundation subgrade should be sprinkled as necessary; to maintain a moist condition as would be expected in any concrete placement.

7.5.11 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.

7.5.12 This office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

7.6 Foundation Settlement

7.6.1 The maximum expected static settlement for a structure supported on a conventional foundation system deriving support in the recommended bearing materials and designed with a maximum bearing pressure of 6,100 psf is estimated to be less than 1½ inches and occur below the heaviest loaded structural element. Settlement of the foundation system is expected to occur on initial application of loading. It is anticipated that the maximum settlement will occur closer to Le Conte Avenue. Differential settlement cannot be determined until building loads and elevations are provided due to the potential for overburden removal at the north side of the site.

7.6.2 Once the design and foundation loading configurations for the proposed structures proceeds to a more finalized plan, the estimated settlements presented in this report should be reviewed and revised, if necessary. If the final foundation loading configurations are greater than the assumed loading conditions, the potential for settlement should be reevaluated by this office.

7.7 Miscellaneous Foundations

7.7.1 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied-in to the proposed structure, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill. Where excavation and compaction cannot be performed, such as adjacent to property lines, foundations may be deepened to maintain a minimum 12 inch embedment into undisturbed competent alluvial soils and must be observed and approved by a Geocon representative.

7.7.2 If the soils exposed in the excavation bottom are soft, compaction of the soft soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative. Miscellaneous foundations may be designed for a bearing value of 1,500 psf, and should be a minimum of 12 inches in width, 12 inches in depth below the lowest adjacent grade and 12 inches into the recommended bearing material. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.

7.7.3 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated.

7.8 Lateral Design

7.8.1 Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. An allowable coefficient of friction of 0.40 may be used with the dead load forces in the undisturbed alluvial soils.

7.8.2 Passive earth pressure for the sides of foundations and slabs poured against undisturbed alluvial soils may be computed as an equivalent fluid having a density of 260 pcf with a maximum earth pressure of 2,600 pcf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

7.9 Concrete Slabs-on-Grade

7.9.1 Unless specifically evaluated and designed by a qualified structural engineer, the slab-on-grade subject to vehicle loading should be a minimum of 6 inches of concrete reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions and positioned vertically near the slab midpoint. The concrete slab-on-grade may bear directly on the undisturbed alluvial soils found at the excavation bottom. Any disturbed soils should be compacted for slab support. The ramp may derive support in the undisturbed alluvial soils and/or engineered fill compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

7.9.2 Slabs-on-grade at the ground surface that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed directly beneath the slab. The vapor retarder and acceptable permeance should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06) and should be installed in general conformance with ASTM E 1643 (latest edition) and the manufacturer's recommendations. A minimum thickness of 15 mils extruded polyolefin plastic is recommended; vapor retarders which contain recycled content or woven materials are not recommended. The vapor retarder should have a permeance of less than 0.01 perms demonstrated by testing before and after mandatory conditioning. The vapor retarder should be installed in direct contact with the concrete slab with proper perimeter seal. If the California Green Building Code requirements apply to this project, the vapor retarder should be underlain by 4 inches of clean aggregate. It is important that the vapor retarder be puncture resistant since it will be in direct contact with angular gravel. As an alternative to the clean aggregate suggested in the California Green Building Code, it is our opinion that the concrete slab-on-grade may be underlain by a vapor retarder over 4 inches of clean sand (sand equivalent greater than 30), since the sand will serve a capillary break and will minimize the potential for punctures and damage to the vapor barrier.

7.9.3 Due to the nature of the subterranean level, waterproofing of subterranean walls and slabs is suggested. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.9.4 For seismic design purposes, a coefficient of friction of 0.40 may be utilized between concrete slabs and subgrade soils without a moisture barrier, and 0.15 for slabs underlain by a moisture barrier.

7.9.5 Exterior slabs for walkways or flatwork, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Prior to construction of slabs, the upper 12 inches of subgrade should be moistened to optimum moisture content and compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Crack control joints should be spaced at intervals not greater than 10 feet and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. The project structural engineer should design construction joints as necessary.

7.9.6 The recommendations of this report are intended to reduce the potential for cracking of slabs due to settlement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

7.10 Retaining Walls

7.10.1 The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 12 feet. In the event that walls higher than 12 feet are planned, Geocon should be contacted for additional recommendations.

7.10.2 Retaining wall foundations may be designed in accordance with the recommendations provided in the *Foundation Design* sections of this report (see Section 7.5).

7.10.3 Retaining walls with a level backfill surface that are not restrained at the top should be designed utilizing a triangular distribution of pressure (active pressure). Restrained walls are those that are not allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, walls may be designed utilizing a triangular distribution of pressure (at-rest pressure). The table below presents recommended pressures to be used in retaining wall design, assuming that proper drainage will be maintained.

RETAINING WALL WITH LEVEL BACKFILL SURFACE

HEIGHT OF RETAINING WALL (Feet)	ACTIVE PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)	AT-REST PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)
Up to 12	35	56

7.10.4 The wall pressures provided above assume that the retaining wall will be properly drained preventing the buildup of hydrostatic pressure. If retaining wall drainage is not implemented, the equivalent fluid pressure to be used in design of undrained walls is 90 pcf. The value includes hydrostatic pressures plus buoyant lateral earth pressures.

7.10.5 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures and should be designed for each condition as the project progresses.

7.10.6 It is recommended that line-load surcharges from adjacent wall footings, use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.20 \times \left(\frac{z}{H}\right)}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.28 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

where x is the distance from the face of the excavation or wall to the vertical line-load, H is the distance from the bottom of the footing to the bottom of excavation or wall, z is the depth at which the horizontal pressure is desired, Q_L is the vertical line-load and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.10.7 It is recommended that vertical point-loads, from construction equipment outriggers or adjacent building columns use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.28 \times \left(\frac{z}{H}\right)^2}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.77 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)^2}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

then

$$\sigma'_H(z) = \sigma_H(z) cos^2(1.1\theta)$$

where x is the distance from the face of the excavation/wall to the vertical point-load, H is distance from the outrigger/bottom of column footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, Q_P is the vertical point-load, $\sigma_H(z)$ is the horizontal pressure at depth z, θ is the angle between a line perpendicular to the excavation/wall and a line from the point-load to location on the excavation/wall where the surcharge is being evaluated, and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.10.8 In addition to the recommended earth pressure, the upper ten feet of the retaining wall adjacent to the street or driveway areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the wall due to normal street traffic. If the traffic is kept back at least ten feet from the wall, the traffic surcharge may be neglected.

7.10.9 Seismic lateral forces should be incorporated into the design as necessary, and recommendations for seismic lateral forces are presented below.

7.11 Dynamic (Seismic) Lateral Forces

7.11.1 The structural engineer should determine the seismic design category for the project in accordance with Section 1613 of the CBC. If the project possesses a seismic design category of D, E, or F, proposed retaining walls in excess of 6 feet in height should be designed with seismic lateral pressure (Section 1803.5.12 of the 2013 CBC).

7.11.2 A seismic load of 10 pcf should be used for design of walls that support more than 6 feet of backfill in accordance with Section 1803.5.12 of the 2016 CBC. The seismic load is applied as an equivalent fluid pressure along the height of the wall and the calculated loads result in a maximum load exerted at the base of the wall and zero at the top of the wall. This seismic load should be applied in addition to the active earth pressure. The earth pressure is based on half of two-thirds of PGA_M calculated from ASCE 7-10 Section 11.8.3.

7.12 Retaining Wall Drainage

7.12.1 Retaining walls should be provided with a drainage system extended at least two-thirds the height of the wall. At the base of the drain system, a subdrain covered with a minimum of 12 inches of gravel should be installed, and a compacted fill blanket or other seal placed at the surface (see Figure 7). The clean bottom and subdrain pipe, behind a retaining wall, should be observed by the Geotechnical Engineer (a representative of Geocon), prior to placement of gravel or compacting backfill.

7.12.2 As an alternative, a plastic drainage composite such as Miradrain or equivalent may be installed in continuous, 4-foot wide columns along the entire back face of the wall, at 8 feet on center. The top of these drainage composite columns should terminate approximately 18 inches below the ground surface, where either hardscape or a minimum of 18 inches of relatively cohesive material should be placed as a cap (see Figure 8). These vertical columns of drainage material would then be connected at the bottom of the wall to a collection panel or a 1-cubic-foot rock pocket drained by a 4-inch subdrain pipe.

7.12.3 Subdrainage pipes at the base of the retaining wall drainage system should outlet to an acceptable location via controlled drainage structures.

7.12.4 Moisture affecting below grade walls is one of the most common post-construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.13 Elevator Pit Design

7.13.1 The elevator pit slab and retaining wall should be designed by the project structural engineer. Elevator pit walls may be designed in accordance with the recommendations in the *Foundation Design* and *Retaining Wall Design* section of this report (see Sections 7.5 and 7.10).

7.13.2 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent foundations and should be designed for each condition as the project progresses.

7.13.3 If retaining wall drainage is to be provided, the drainage system should be designed in accordance with the *Retaining Wall Drainage* section of this report (see Section 7.11).

7.13.4 Subdrainage pipes at the base of the retaining wall drainage system should outlet to a location acceptable to the building official.

7.13.5 It is suggested that the exterior walls and slab be waterproofed to prevent excessive moisture inside of the elevator pit. Waterproofing design and installation is not the responsibility of the geotechnical engineer.

7.14 Elevator Piston

7.14.1 If a plunger-type elevator piston is installed for this project, a deep drilled excavation will be required. It is important to verify that the drilled excavation is not situated immediately adjacent to a foundation or shoring pile, or the drilled excavation could compromise the existing foundation or pile support, especially if the drilling is performed subsequent to the foundation or pile construction.

7.14.2 Some caving may occur and the contractor should be prepared to use casing and should have it readily available at the commencement of drilling activities. Continuous observation of the drilling and installation of the elevator piston by the Geotechnical Engineer (a representative of Geocon West, Inc.) is required.

7.14.3 The annular space between the piston casing and drilled excavation wall should be filled with a minimum of 1½-sack slurry pumped from the bottom up. As an alternative, pea gravel may be utilized. The use of soil to backfill the annular space is not acceptable.

7.15 Temporary Excavations

7.15.1 Excavations on the order of 15 feet in height may be required for construction of the proposed subterranean level, including foundation excavations. The excavations are expected to expose artificial fill and alluvial soils, which may be subject to excessive caving where granular soils are exposed. Vertical excavations up to five feet in height may be attempted where not surcharged by adjacent traffic or structures; however, the contractor should be prepared for caving sands in open excavations.

7.15.2 Vertical excavations greater than five feet will require sloping and/or shoring measures in order to provide a stable excavation. Where sufficient space is available, temporary unsurcharged embankments up to 12 feet high could be sloped back at a uniform 1:1 slope gradient or flatter. A uniform slope does not have a vertical portion. Where space is limited, shoring measures will be required. *Shoring* data is provided in Section 7.16 of this report.

7.15.3 Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Geocon personnel should inspect the soils exposed in the cut slopes during excavation so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

7.16 Shoring – Soldier Pile Design and Installation

7.16.1 The following information on the design and installation of shoring is preliminary. Review of the final shoring plans and specifications should be made by this office prior to bidding or negotiating with a shoring contractor.

7.16.2 One method of shoring would consist of steel soldier piles, placed in drilled holes and backfilled with concrete. The steel soldier piles may also be installed utilizing high frequency vibration. Where maximum excavation heights are less than 12 feet the soldier piles are typically designed as cantilevers. Where excavations exceed 12 feet or are surcharged, soldier piles may require lateral bracing utilizing drilled tie-back anchors or raker braces to maintain an economical steel beam size and prevent excessive deflection. The size of the steel beam, the need for lateral bracing, and the acceptable shoring deflection should be determined by the project shoring engineer.

7.16.3 The design embedment of the shoring pile toes must be maintained during excavation activities. The toes of the perimeter shoring piles should be deepened to take into account any required excavations necessary for grading activities, foundations, and/or adjacent drainage systems.

7.16.4 Drilled cast-in-place soldier piles should be placed no closer than 3 diameters on center. The minimum diameter of the piles is 18 inches. Structural concrete should be used for the soldier piles below the excavation; lean-mix concrete may be employed above that level. As an alternative, lean-mix concrete may be used throughout the pile where the reinforcing consists of a wideflange section. The slurry must be of sufficient strength to impart the lateral bearing pressure developed by the wideflange section to the soil. For design purposes, an allowable passive value for the soils below the bottom plane of excavation may be assumed to be 260 psf per foot where in contact with alluvial soils. Where piles are installed by vibration techniques, the passive pressure may be assumed to mobilize across a width equal to the two times the dimension of the beam flange. The allowable passive value may be doubled for isolated piles, spaced a minimum of twice the pile diameter. To develop the full lateral value, provisions should be implemented to assure firm contact between the soldier piles and the undisturbed alluvium.

7.16.5 Casing will likely be required since some caving may occur in the granular soils, and the contractor should have casing available prior to commencement of drilling activities. When casing is used, extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than 5 feet. As an alternative, piles may be vibrated into place; however, there is always a risk that excessive vibrations in sandy soils could induce settlements and distress to adjacent offsite improvements. Continuous observation of the drilling and pouring of the piles by the Geotechnical Engineer (a representative of Geocon West, Inc.), is required.

7.16.6 If a vibratory method of solider pile installation is utilized, predrilling may be performed prior to installation of the steel beams. If predrilling is performed, it is recommended that the bore diameter be at least 2 inches smaller than the largest dimension of the pile to prevent excessive loss in the frictional component of the pile capacity. Predrilling should not be conducted below the proposed excavation bottom.

7.16.7 If a vibratory method is utilized, the owner should be aware of the potential risks associated with vibratory efforts, which typically involve inducing settlement within the vicinity of the pile which could result in a potential for damage to existing improvements in the area.

7.16.8 The level of vibration that results from the installation of the piles should not exceed a threshold where occupants of nearby structures are disturbed, despite higher vibration tolerances that a building may endure without deformation or damage. The main parameter used for vibration assessment is peak particle velocity in units of inch per second (in/sec). The acceptable range of peak particle velocity should be evaluated based on the age and condition of adjacent structures, as well as the tolerance of human response to vibration.

7.16.9 Based on Table 19 of the *Transportation and Construction Induced Vibration Guidance Manual* (Caltrans 2013), a continuous source of vibrations (ex. vibratory pile driving) which generates a maximum peak particle velocity of 0.5 in/sec is considered tolerable for modern industrial / commercial buildings and new residential structures. The Client should be aware that a lower value may be necessary if older or fragile structures are in the immediate vicinity of the site.

7.16.10 Vibrations should be monitored and record with seismographs during pile installation to detect the magnitude of vibration and oscillation experienced by adjacent structures. If the vibrations exceed the acceptable range during installation, the shoring contractor should modify the installation procedure to reduce the values to within the acceptable range. Vibration monitoring is not the responsibility of the Geotechnical Engineer. Geocon does not practice in the field of vibration monitoring. If construction techniques will be implemented, it is recommended that qualified consultant be retained to provide site specific recommendations for vibration thresholds and monitoring.

7.16.11 Geocon does not practice in the field of vibration monitoring. If construction techniques will be implemented, it is recommended that qualified consultant be retained to provide site specific recommendations for vibration thresholds and monitoring.

7.16.12 The frictional resistance between the soldier piles and retained soil may be used to resist the vertical component of the load. The coefficient of friction may be taken as 0.40 based on uniform contact between the steel beam and lean-mix concrete and alluvium. The portion of soldier piles below the plane of excavation may also be employed to resist the downward loads. The downward capacity may be determined using a frictional resistance of 600 psf.

7.16.13 Groundwater was encountered during exploration and the contractor should be prepared for groundwater during pile installation should the need arise. Piles placed below the water level require the use of a tremie to place the concrete into the bottom of the hole. A tremie should consist of a rigid, water-tight tube having a diameter of not less than 6 inches with a hopper at the top. The tube should be equipped with a device that will close the discharge end and prevent water from entering the tube while it is being charged with concrete. The tremie should be supported so as to permit free movement of the discharge end over the entire top surface of the work and to permit rapid lowering when necessary to retard or stop the flow of concrete. The discharge end should be closed at the start of the work to prevent water entering the tube and should be entirely sealed at all times, except when the concrete is being placed. The tremie tube should be kept full of concrete. The flow should be continuous until the work is completed and the resulting concrete seal should be monolithic and homogeneous. The tip of the tremie tube should always be kept about 5 feet below the

surface of the concrete and definite steps and safeguards should be taken to insure that the tip of the tremie tube is never raised above the surface of the concrete.

7.16.14 A special concrete mix should be used for concrete to be placed below water. The design should provide for concrete with an unconfined compressive strength psi of 1,000 pounds per square inch (psi) over the initial job specification. An admixture that reduces the problem of segregation of paste/aggregates and dilution of paste should be included. The slump should be commensurate to any research report for the admixture, provided that it should also be the minimum for a reasonable consistency for placing when water is present.

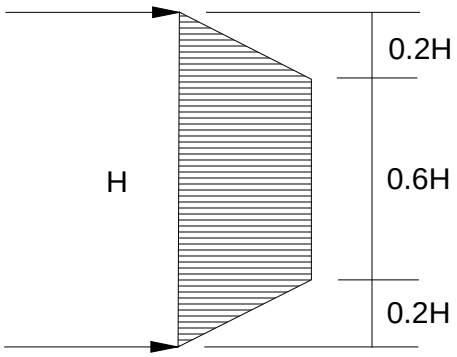
7.16.15 Due to the nature of the site soils, it is expected that continuous lagging between soldier piles will be required. However, it is recommended that the exposed soils be observed by the Geotechnical Engineer (a representative of Geocon West, Inc.), to verify the presence of any cohesive soils and the areas where lagging may be omitted.

7.16.16 The time between lagging excavation and lagging placement should be as short as possible. Soldier piles should be designed for the full-anticipated pressures. Due to arching in the soils, the pressure on the lagging will be less. It is recommended that the lagging be designed for the full design pressure but be limited to a maximum of 400 psf.

7.16.17 For the design of shoring, it is recommended that an equivalent fluid pressure based on the following table, be utilized for design. A diagram depicting the trapezoidal pressure distribution of lateral earth pressure is provided below the table.

HEIGHT OF SHORING (FEET)	**EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot) (ACTIVE PRESSURE)**	**EQUIVALENT FLUID PRESSURE (Pounds Per Square Foot per Foot) Trapezoidal (Where H is the height of the shoring in feet)**
Up to 15	30	19H

Trapezoidal Distribution of Pressure



7.16.18 It is very important to note that active pressures can only be achieved when movement in the soil (earth wall) occurs. If movement in the soil is not acceptable, such as adjacent to an existing structure, or the pile is restrained from movement by bracing or a tie back anchor, an at-rest pressure of 51 pcf should be considered for design purposes.

7.16.19 Where a combination of sloped embankment and shoring is utilized, the pressure will be greater and must be determined for each combination. Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic, or adjacent structures and must be determined for each combination.

7.16.20 It is recommended that line-load surcharges from adjacent wall footings, use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.20 \times \left(\frac{z}{H}\right)}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.28 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

where x is the distance from the face of the excavation or wall to the vertical line-load, H is the distance from the bottom of the footing to the bottom of excavation or wall, z is the depth at which the horizontal pressure is desired, Q_L is the vertical line-load and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.16.21 It is recommended that vertical point-loads, from construction equipment outriggers or adjacent building columns use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.28 \times \left(\frac{z}{H}\right)^2}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.77 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)^2}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

then

$$\sigma'_H(z) = \sigma_H(z) cos^2(1.1\theta)$$

where x is the distance from the face of the excavation/wall to the vertical point-load, H is distance from the outrigger/bottom of column footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, Q_P is the vertical point-load, $\sigma_H(z)$ is the horizontal pressure at depth z, θ is the angle between a line perpendicular to the excavation/wall and a line from the point-load to location on the excavation/wall where the surcharge is being evaluated, and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.16.22 In addition to the recommended earth pressure, the upper 10 feet of the shoring adjacent to the street or driveway areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the shoring due to normal street traffic. If the traffic is kept back at least 10 feet from the shoring, the traffic surcharge may be neglected.

7.16.23 It is difficult to accurately predict the amount of deflection of a shored embankment. It should be realized that some deflection will occur. It is recommended that the deflection be minimized to prevent damage to existing structures and adjacent improvements. Where public right-of-ways are present or adjacent offsite structures do not surcharge the shoring excavation, the shoring deflection should be limited to less than 1 inch at the top of the shored embankment. Where offsite structures are within the shoring surcharge area it is recommended that the beam deflection be limited to less than ½ inch at the elevation of the adjacent offsite foundation, and no deflection at all if deflections will damage existing structures. The allowable deflection is dependent on many factors, such as the presence of structures and utilities near the top of the embankment, and will be assessed and designed by the project shoring engineer.

7.16.24 Because of the depth of the excavation, some means of monitoring the performance of the shoring system is suggested. The monitoring should consist of periodic surveying of the lateral and vertical locations of the tops of all soldier piles and the lateral movement along the entire lengths of selected soldier piles.

7.16.25 Due to the depth of the depth of the excavation and proximity to adjacent structures, it is suggested that prior to excavation the existing improvements be inspected to document the present condition. For documentation purposes, photographs should be taken of preconstruction distress conditions and level surveys of adjacent grade and pavement should be considered. During excavation activities, the adjacent structures and pavement should be periodically inspected for signs of distress. In the even that distress or settlement is noted, an investigation should be performed and corrective measures taken so that continued or worsened distress or settlement is mitigated. Documentation and monitoring of the offsite structures and improvements is not the responsibility of the geotechnical engineer.

7.17 Stormwater Infiltration

7.17.1 During the November 11, 2016 site exploration, boring B4 was excavated and utilized to perform percolation testing. The boring was advanced to the depth listed in the table below. A slotted casing was placed in the boring, and the annular space between the casing and excavation was filled with filter pack. The boring was then filled with water to pre-saturate the soils. On November 12, 2016, the casing was refilled with water and percolation test readings were performed after repeated flooding of the cased excavation. Based on the test results, the average infiltration rate (adjusted percolation rate) for the earth materials encountered is provided in the following table. Additional correction factors may be required and should be applied by the engineer in responsible charge of the design of the stormwater infiltration system and based on applicable guidelines.

Boring	Infiltration Depth (ft.)	Average Infiltration Rate (in / hour)
B4	15-20	0.04

7.17.2 The results of the percolation testing indicate that the infiltration rate is slow and is likely the result of very dense and fine-grained soils that are present, which are typically not conducive to rapid infiltration.

7.17.3 Based on the percolation test result, a stormwater infiltration system is not recommended for this project. It is suggested that stormwater be retained, filtered and discharged in accordance with the requirements of the local governing agency.

7.18 Surface Drainage

7.18.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.

7.18.2 All site drainage should be collected and controlled in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2016 CBC 1804.4 or other applicable standards. In addition, drainage should not be allowed to flow uncontrolled over any descending slope. Discharge from downspouts, roof drains and scuppers are not recommended onto unprotected soils within five feet of the building perimeter. Planters which are located adjacent to foundations should be sealed to prevent moisture intrusion into the soils providing foundation support. Landscape irrigation is not recommended within 5 feet of the building perimeter footings except when enclosed in protected planters.

7.18.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

7.18.4 Landscaping planters immediately adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Either a subdrain, which collects excess irrigation water and transmits it to drainage structures, or an impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, it is recommended that consideration be given to providing a cutoff wall along the edge of the pavement that extends at least 12 inches below the base material.

7.19 Plan Review

7.19.1 Grading, shoring, and foundation plans should be reviewed by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.

2. This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

4. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

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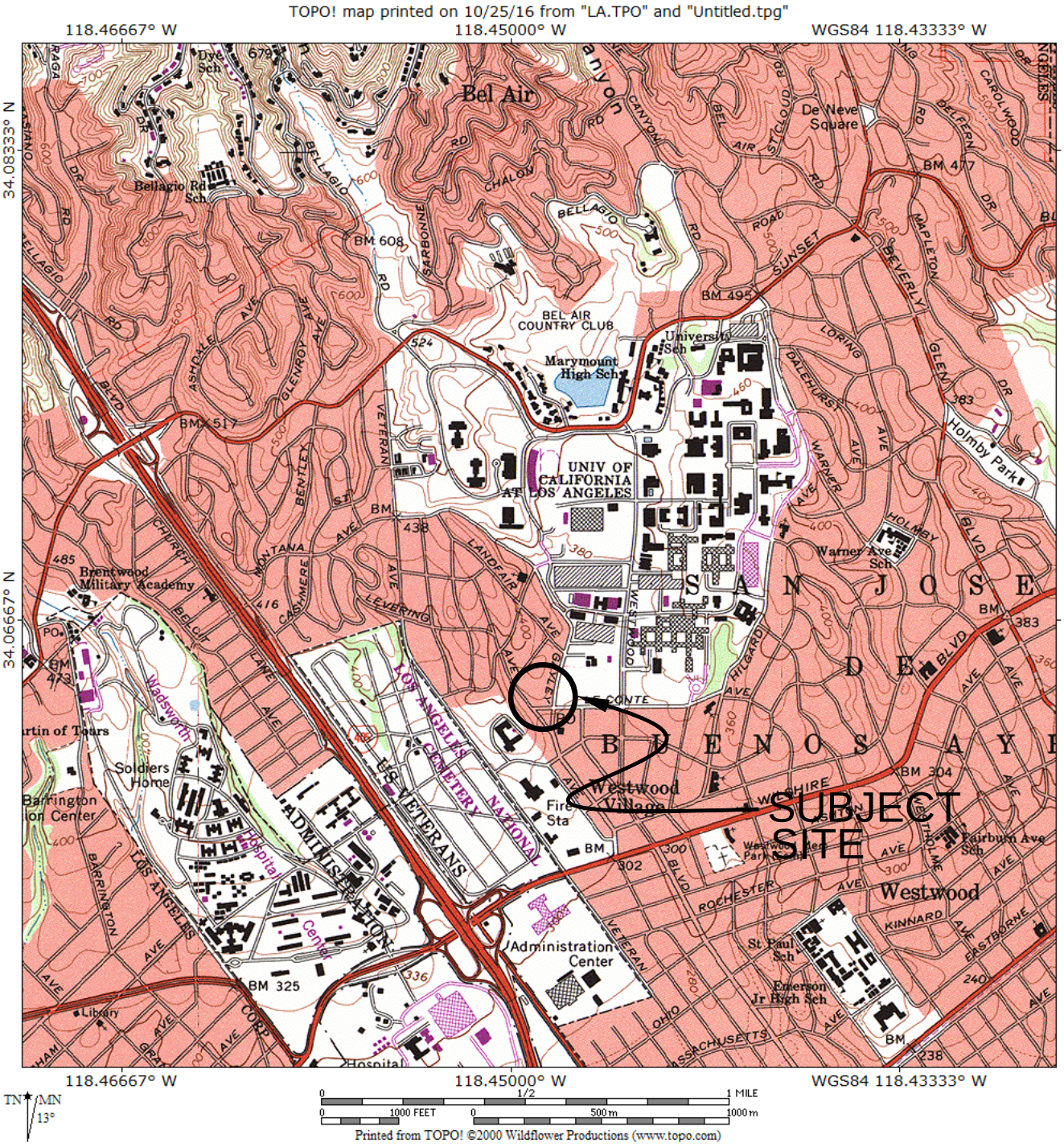

REFERENCE: U.S.G.S. TOPOGRAPHIC MAPS, 7.5 MINUTE SERIES, BEVERLY HILLS, CA QUADRANGLE

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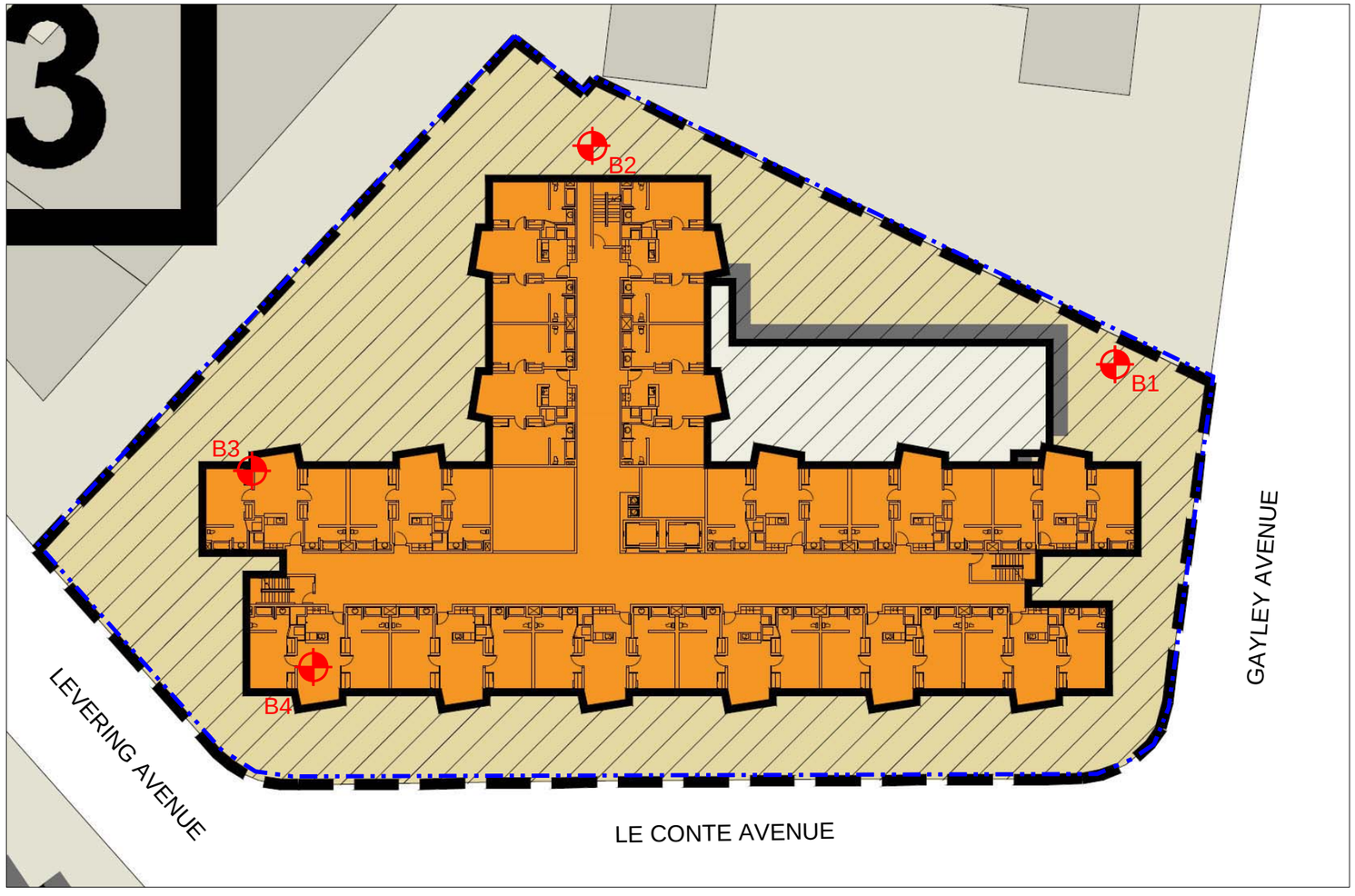
VICINITY MAP

UCLA CAMPUS HOUSING - UNEX
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

DEC 2016 | PROJECT NO. A9060-06-09 | FIG. 1



LEGEND

B8 Boring Location and Number

Existing Property Line

Approximate Location of Proposed Structure

Approximate Location of Offsite Structures

0 60' 120'

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SITE PLAN

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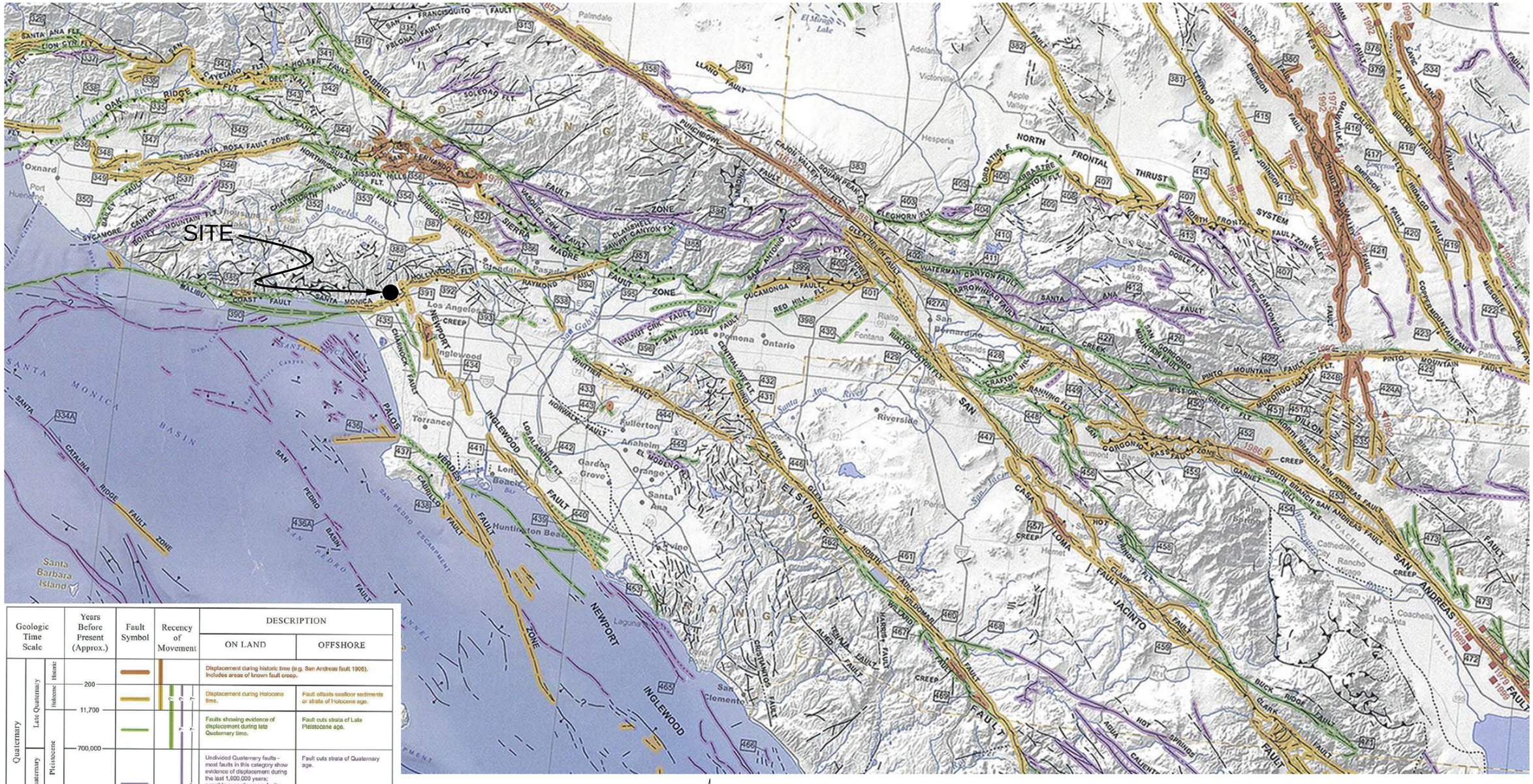
DEC 2016	PROJECT NO. A9060-06-09	FIG. 2

Reference: Jennings, C.W. and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey Geologic Data Map No. 6.



Geologic Time Scale			Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION	
						ON LAND	OFFSHORE
Quaternary	Late Quaternary	Historic				Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
		Holocene	200			Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
			11,700			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
	Early Quaternary	Pleistocene	700,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary			1,600,000*			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.
			4.5 billion (Age of Earth)				

* Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.8 Ma criterion.

0 12 24 Miles

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REGIONAL FAULT MAP

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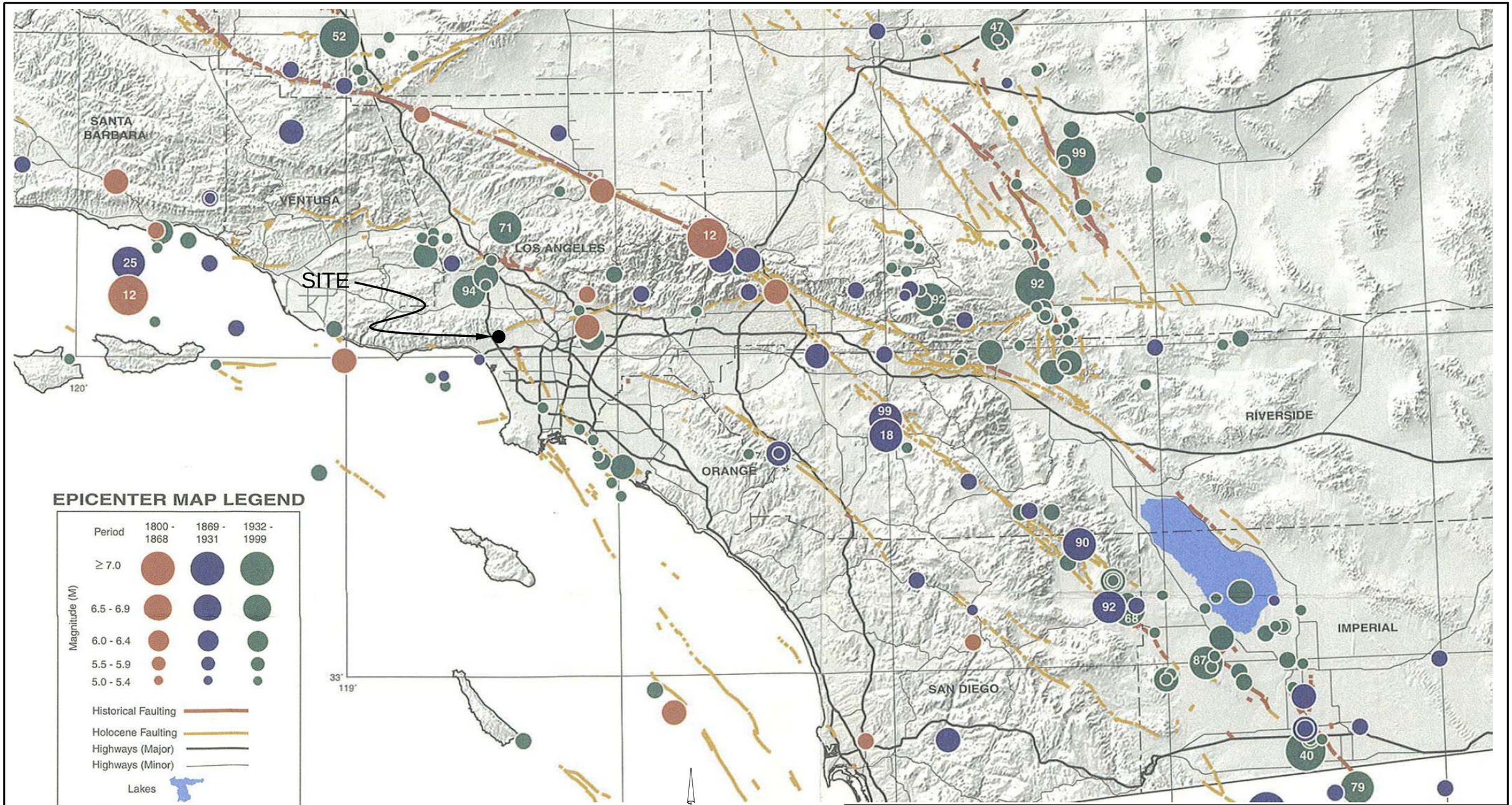
DEC 2016 | PROJECT NO. A9060-06-09 | FIG. 3



EPICENTER MAP LEGEND

Period	1800 - 1868	1869 - 1931	1932 - 1999
≥ 7.0			
6.5 - 6.9			
6.0 - 6.4			
5.5 - 5.9			
5.0 - 5.4			

Magnitude (M)

Historical Faulting

Holocene Faulting

Highways (Major)

Highways (Minor)

Lakes

65 Last two digits of M ≥ 6.5 earthquake year

N

0 20 40 Miles

Reference: Toppozada, T., Branum, D., Petersen, M., Hallstrom, C., Cramer, C., and Reichle, M., 2000, Epicenters and Areas Damaged by M≥5 California Earthquakes, 1800 - 1999, California Geological Survey, Map Sheet 49.

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REGIONAL SEISMICITY MAP

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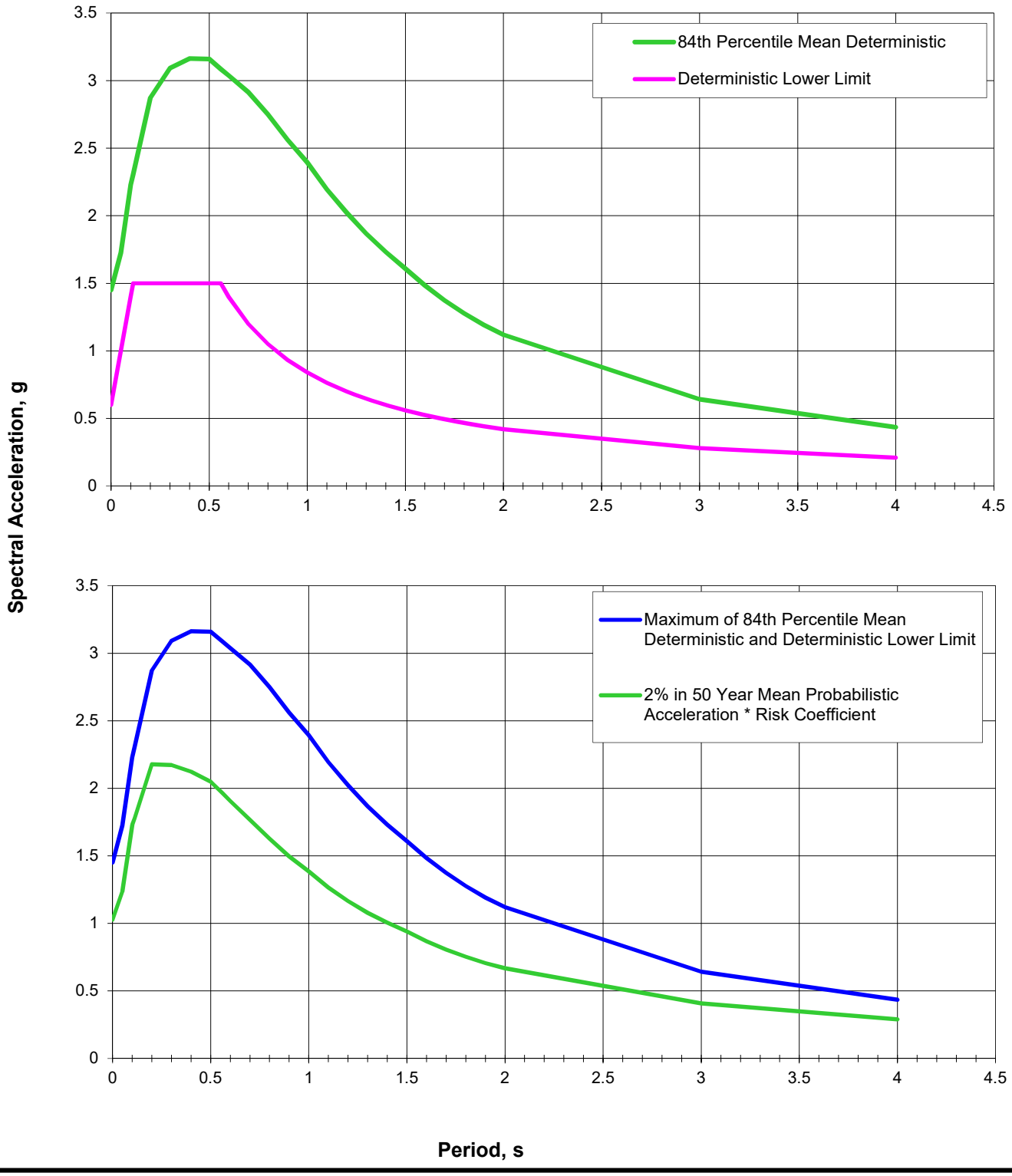
DEC 2016 | PROJECT NO. A9060-06-09 | FIG. 4



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DESIGN RESPONSE SPECTRUM

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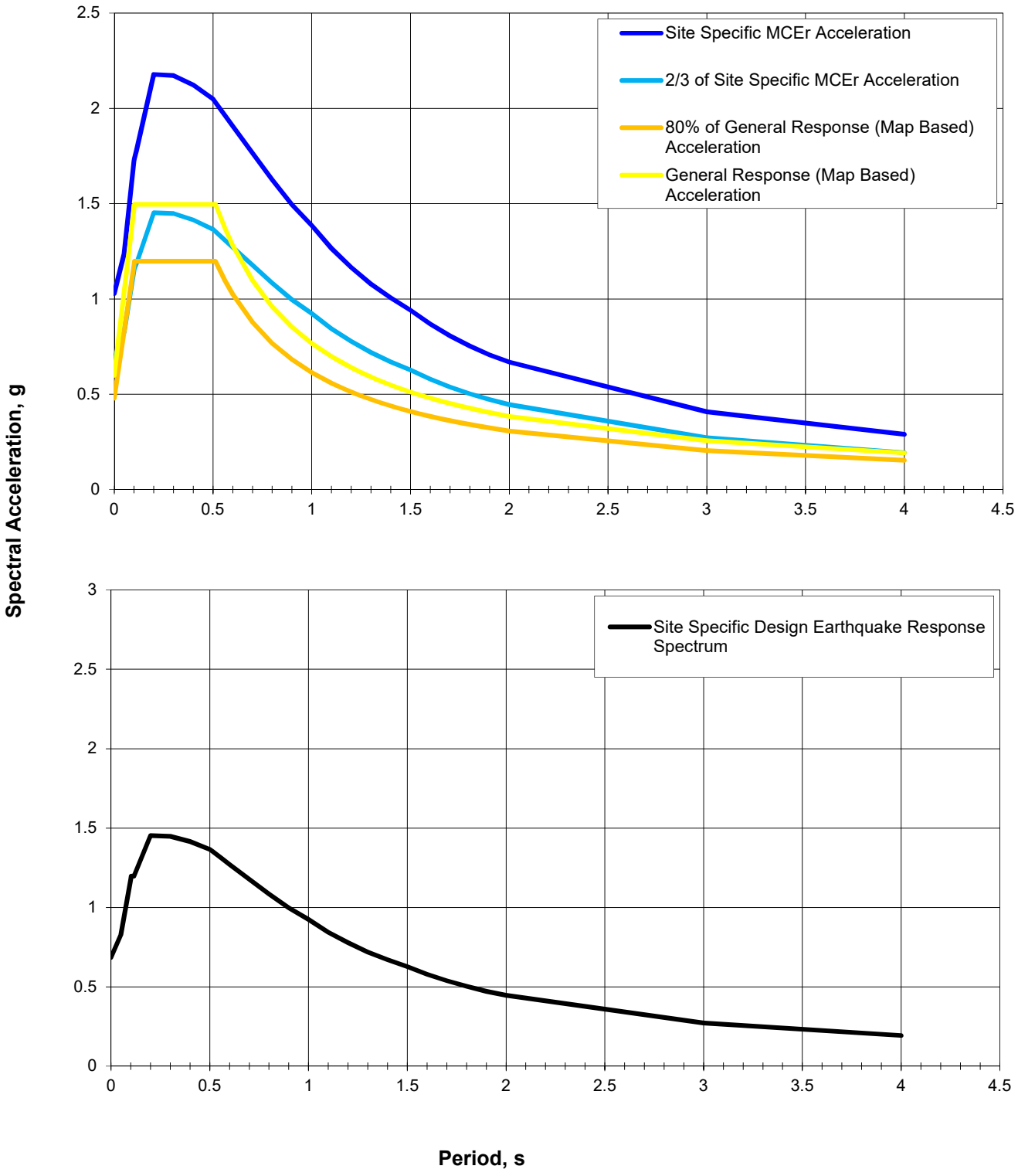
DEC 2016 | PROJECT NO. A9060-06-09 | FIG. 5



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DESIGN RESPONSE SPECTRUM

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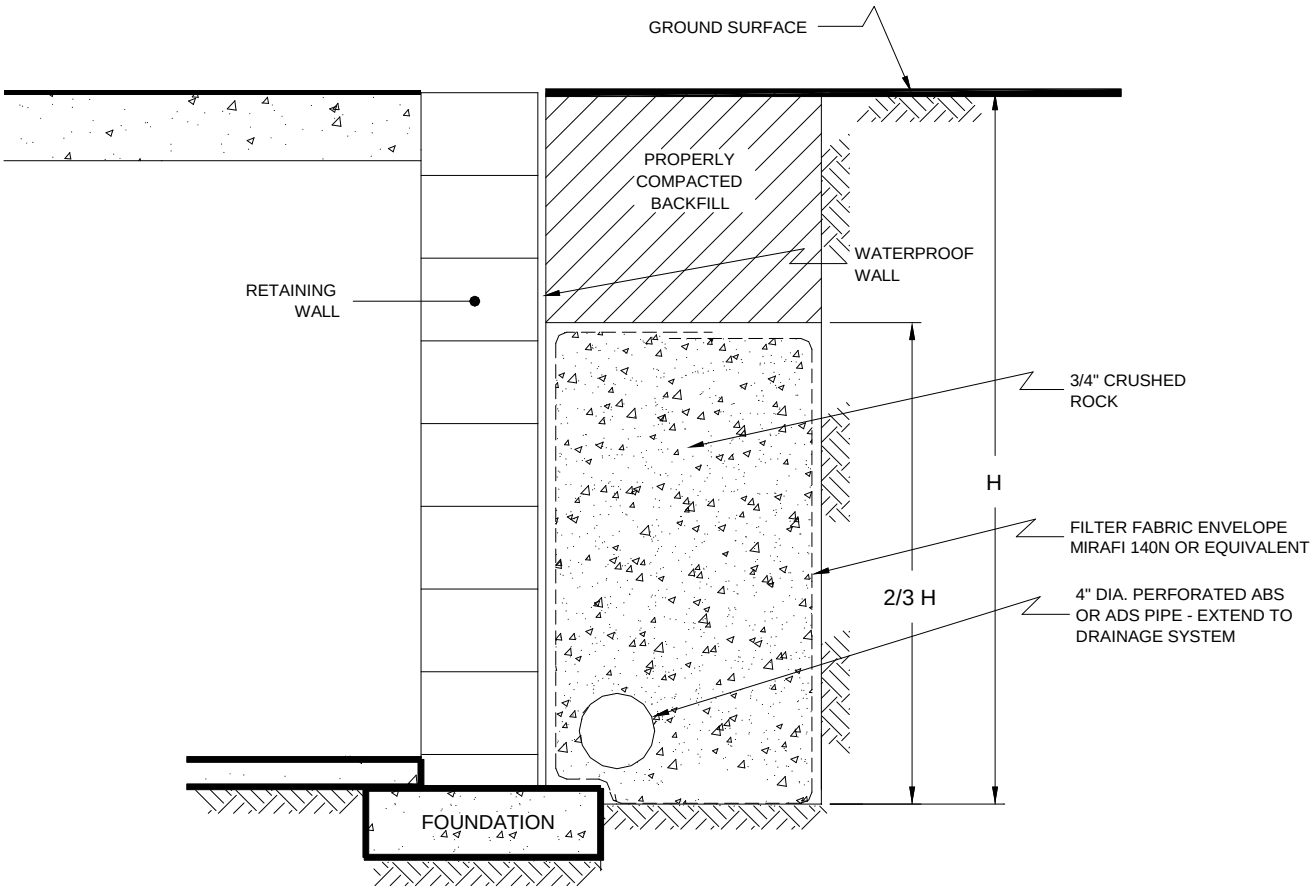
DEC 2016	PROJECT NO. A9060-06-09	FIG. 6



NO SCALE

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RETAINING WALL DRAIN DETAIL

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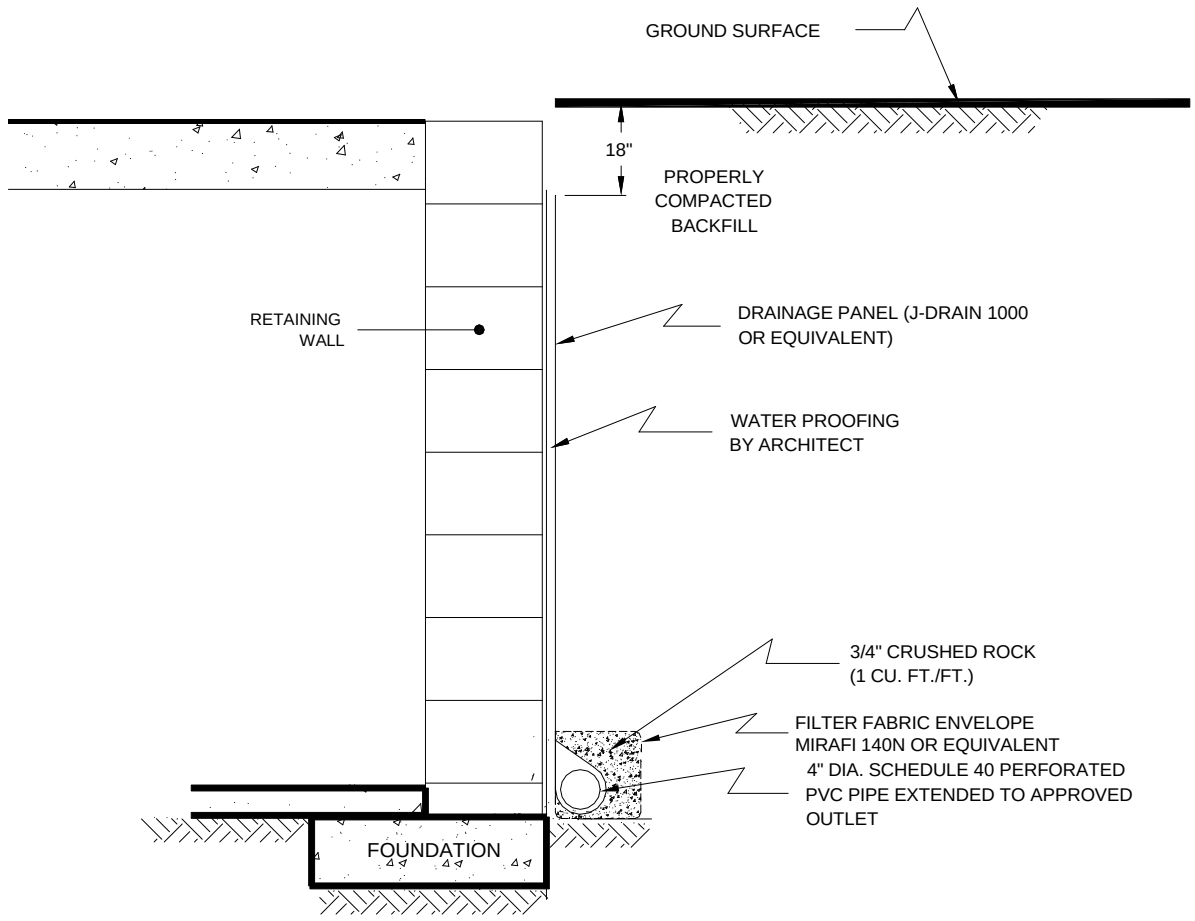
DEC. 2016	PROJECT NO. A9060-06-09	FIG. 7



NO SCALE

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RETAINING WALL DRAIN DETAIL

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LOS ANGELES, CALIFORNIA

DEC. 2016	PROJECT NO. A9060-06-09	FIG. 8

Ground Motion Spectral Accelerations, (g)

Spectral Period (seconds)	Site Specific Design Response Spectrum (5% Damping)
PGA	0.685
0.100	1.177
0.103	1.198
0.112	1.198
0.116	1.198
0.200	1.452
0.300	1.449
0.400	1.415
0.500	1.366
0.513	1.354
0.560	1.309
0.600	1.271
0.700	1.177
0.800	1.085
0.900	0.997
1.000	0.924
1.100	0.843
1.200	0.778
1.300	0.719
1.400	0.671
1.500	0.628
1.600	0.579
1.700	0.538
1.800	0.502
1.900	0.471
2.000	0.446
3.000	0.272
4.000	0.193

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DESIGN RESPONSE SPECTRUM

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LOS ANGELES, CALIFORNIA

DEC 2016	PROJECT NO. A9060-06-09	Table 1

APPENDIX A

APPENDIX A

FIELD INVESTIGATION

The site was explored on November 11 and 12, 2016, by excavating three 8-inch diameter borings utilizing a hollow stem auger drilling machine and one 4-inch diameter boring utilizing hand tools. The borings were excavated to depths ranging between 19½ feet (350 feet MSL) and 70½ feet (353 MSL) below the existing ground surface. Representative and relatively undisturbed samples were obtained by driving a 3-inch O. D., California Modified Sampler into the "undisturbed" soil mass with blows from a 140-pound auto-hammer falling 30 inches (8-inch diameter borings) and a slide hammer (4-inch diameter boring). The California Modified Sampler was equipped with 1-inch high by 2-$^{3}/_{8}$-inch diameter brass sampler rings to facilitate soil removal and testing. Bulk samples were also obtained. The approximate locations of the borings are depicted on the Site Plan (see Figure 2).

The soil conditions encountered in the boring were visually examined, classified and logged in general accordance with the Unified Soil Classification System (USCS). The logs of the borings are presented on Figures A1 through A4. The log depicts the soil and geologic conditions encountered and the depth at which samples were obtained.

PROJECT NO. A9060-06-09

BORING 1

ELEV. (MSL.) **347'** DATE COMPLETED **11/11/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	BULK 0-5'				**AC: 6" BASE: 8"** **ARTIFICIAL FILL** Sand with Gravel, well-graded, medium dense, slightly moist, gravel (to .5").			
2	B1@2'			SM		61	121.2	14.9
4					**OLDER ALLUVIUM** Silty Sand with Gravel, dense, slightly moist, dark yellowish brown, fine- to medium-grained.			
6	B1@5'			SW	Sand, well-graded, dense, slightly moist, dark yellowish brown, fine- to coarse-grained.	72	123.9	7.4
8	B1@7'				Silty Sand, very dense, slightly moist, fine- to medium-grained.	50 (5")	90.4	26.6
10	B1@10'				- increase in silt content	50 (4")	111.8	12.9
12	B1@12'				- decrease in silt content	50 (6")	115.0	8.1
14					- increase in silt content			
16	B1@15'			SM		50 (6")	123.3	13.2
18					- dense, reddish brown, fine-grained, trace clay			
20	B1@20'					65	113.2	19.7
22								
24					Clayey Silt, hard, slightly moist, some fine-grained sand.			
26	B1@25'			ML		56	110.5	20.9
28					- increase in sand content			

A9060-06-09 BORING LOGS.GPJ

Figure A1,
Log of Boring 1, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9060-06-09

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING 1** ELEV. (MSL.) **347'** DATE COMPLETED **11/11/16** EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
30	B1@30'			ML		50 (5")	105.2	20.8
					Total depth of boring: 30.5 feet Fill to 1 foot. No groundwater encountered. Backfilled with soil cuttings and tamped. Asphalt patched. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

A9060-06-09 BORING LOGS.GPJ

Figure A1,
Log of Boring 1, Page 2 of 2

SAMPLE SYMBOLS

- ... SAMPLING UNSUCCESSFUL
- ... STANDARD PENETRATION TEST
- ... DRIVE SAMPLE (UNDISTURBED)
- ... DISTURBED OR BAG SAMPLE
- ... CHUNK SAMPLE
- ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. A9060-06-09

BORING 2

ELEV. (MSL.) **353'** DATE COMPLETED **11/11/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	BULK 0-5'				**AC: 3" BASE: 6"** **ARTIFICIAL FILL** Sand with Silt, poorly graded, medium dense, slightly moist, yellowish brown, fine-grained.			
4	B2@5'			SP-SM	**OLDER ALLUVIUM** Sand with Silt, poorly graded, dense, slightly moist, light yellowish brown, fine-grained.	82	110.4	16.0
8	B2@7'				- very dense	50 (3")	120.4	7.3
10	B2@10'			ML	Sandy Silt, hard, yellowish brown, fine-grained, some coarse-grained, some gravel (to 0.25").	50 (6")	117.1	14.2
12	B2@12'			SM	Silty Sand, dense, slightly moist, light yellowish brown, trace clay.	79	96.2	20.9
16	B2@15'			SP	Sand, poorly graded, dense, slightly moist, yellowish brown, fine-grained, trace silt.	73	112.9	10.3
20	B2@20'				Sandy Silt, hard, slightly moist, reddish brown, fine-grained, trace clay.	43	112.4	16.7
24	B2@25'			ML	- dark yellowish brown	50 (6")	112.2	21.4
28					- increase in sand content			

A9060-06-09 BORING LOGS.GPJ

Figure A2,
Log of Boring 2, Page 1 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9060-06-09

BORING 2

ELEV. (MSL.) **353'** DATE COMPLETED **11/11/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B2@30'			ML		59	102.7	23.0
32								
34								
36	B2@35'					50 (4")	112.9	19.7
38					- increase in sand content			
40	B2@40'			SW-SM	Sand with Silt, well-graded, very dense, slightly moist, yellowish brown to brown, fine- to medium-grained, trace fine gravel.	50 (6")	84.0	5.2
42								
44				ML	Clayey Silt, hard, slightly moist, yellowish brown, some fine-grained sand.			
46	B2@45'		▼			50 (6")	115.5	15.9
48								
50	B2@50'				- stiff	35	107.6	22.8
52								
54				SM	Silty Sand with Gravel, very dense, moist, gray and yellowish brown, fine- to medium-grained, some coarse-grained, gravel (to 1").			
56	B2@55'					50 (6")	125.7	13.9
58								
				SW	Sand, well-graded, medium dense, wet, brown to grayish brown, some silt,			

A9060-06-09 BORING LOGS.GPJ

Figure A2,
Log of Boring 2, Page 2 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. A9060-06-09

BORING 2

ELEV. (MSL.) **353'** DATE COMPLETED **11/11/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
60	B2@60'			SW	some fine gravel.	31	122.6	7.5
62								
64					Silty Sand, dense, moist, reddish brown, fine- to medium-grained, trace clay.			
66	B2@65'			SM		84	119.3	14.9
68								
70	B2@70'				- some fine gravel (to 0.5"), increase in clay content	42	116.0	17.2

Total depth of boring: 70.5 feet
Fill to 4 feet.
Groundwater measured at 47.2 feet 30 minutes after completion of drilling.
Backfilled with soil cuttings and tamped.
Asphalt patched.

*Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.

A9060-06-09 BORING LOGS.GPJ

Figure A2,
Log of Boring 2, Page 3 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. A9060-06-09

BORING 3

ELEV. (MSL.) **351'** DATE COMPLETED **11/11/16**

EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	BULK 0-5'				**ARTIFICIAL FILL** Sand with Gravel, well-graded, loose to medium dense, slightly moist, trace silt.			
4	B3@5'			SW	**OLDER ALLUVIUM** Sand with Gravel, well-graded, dense, slightly moist, dark yellowish brown, fine- to coarse-grained, slate gravel (to 1"), highly oxidized.	59	120.4	10.7
6	B3@7'			SM	Silty Sand, hard, slightly moist, dark yellowish brown, fine- to medium-grained, trace coarse-grained, trace fine gravel.	56	109.9	18.4
10	B3@10'			SP-SM	Sand with Silt, poorly graded, medium dense, slightly moist, light yellowish brown, fine-grained.	23	94.7	23.1
12	B3@12'				- very dense	50 (6")	119.7	13.0
14	B3@15'			SP	Sand with Gravel, poorly graded, medium dense, slightly moist, slate gravel (to 1"), trace clay.	48	104.7	18.2
20	B3@20'			SM	Silty Sand, medium dense, slightly moist, dark yellowish brown, trace clay.	34	115.2	18.0
24	B3@25'			CL	Clay, stiff, slightly moist, yellowish brown, trace fine-grained sand.	26	112.1	20.2
28					- hard			

A9060-06-09 BORING LOGS.GPJ

Figure A3,
Log of Boring 3, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. A9060-06-09

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING 3** ELEV. (MSL.) **351'** DATE COMPLETED **11/11/16** EQUIPMENT **HOLLOW STEM AUGER** BY: **RMA**	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
30	B3@30'			CL		50	112.9	16.7
					Total depth of boring: 30.5 feet Fill to 4 feet. No groundwater encountered. Percolation pipe installed. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

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Figure A3,
Log of Boring 3, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. A9060-06-09

BORING 4

ELEV. (MSL.) **350'** DATE COMPLETED **11/12/16**

EQUIPMENT **HAND AUGER** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	BULK 0-5'				**ARTIFICIAL FILL** Sand with Silt, poorly graded, loose, slightly moist, dark yellowish brown, fine- to medium-grained, trace rootlets.			
2	B4@2'			SW	**OLDER ALLUVIUM** Sand with Gravel, well-graded, medium dense, slightly moist, yellowish brown, gravel (to 0.5").	--	94.9	16.1
4								
6	B4@5'					--	109.0	9.5
8	B4@8'				Silty Sand with Gravel, medium dense to dense, slightly moist, dark yellowish brown, fine- to medium-grained, some coarse-grained, gravel (to 1").	--	111.0	8.6
10								
12	B4@11'			SM	- increase in gravel content	--	119.3	8.1
14								
16	B4@15'				- increase in silt content	--	119.7	7.9
18								
	B4@19'			SW	Sand with Gravel, well-graded, dense, slightly moist, dark yellowish brown, gravel (to 3"), trace silt.	--	105.5	5.4
					Total depth of boring: 19.5 feet Fill to 2 feet. No groundwater encountered. Backfilled with soil cuttings and tamped.			

A9060-06-09 BORING LOGS.GPJ

Figure A4,
Log of Boring 4, Page 1 of 1

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

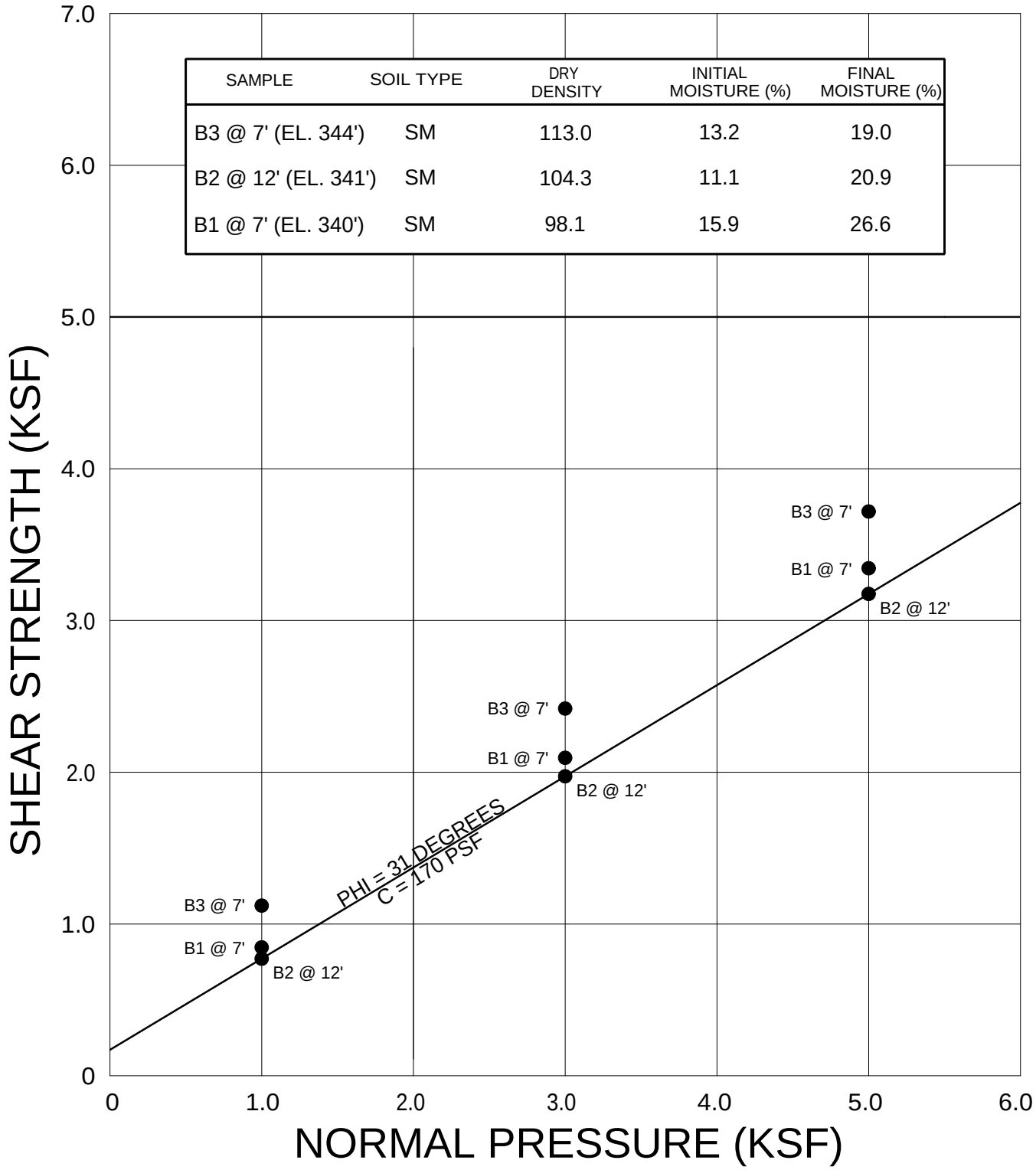
APPENDIX B

APPENDIX B

LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the "American Society for Testing and Materials (ASTM)", or other suggested procedures. Selected samples were tested for direct shear strength, consolidation, expansion characteristics, corrosivity, and in-place dry density and moisture content. The results of the laboratory tests are summarized in Figures B1 through B8. The in-place dry density and moisture content of the samples tested are presented in the boring logs, Appendix A.

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B3 @ 7' (EL. 344')	SM	113.0	13.2	19.0
B2 @ 12' (EL. 341')	SM	104.3	11.1	20.9
B1 @ 7' (EL. 340')	SM	98.1	15.9	26.6



● DIRECT SHEAR, SATURATED

GEOCON
WEST, INC.

ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

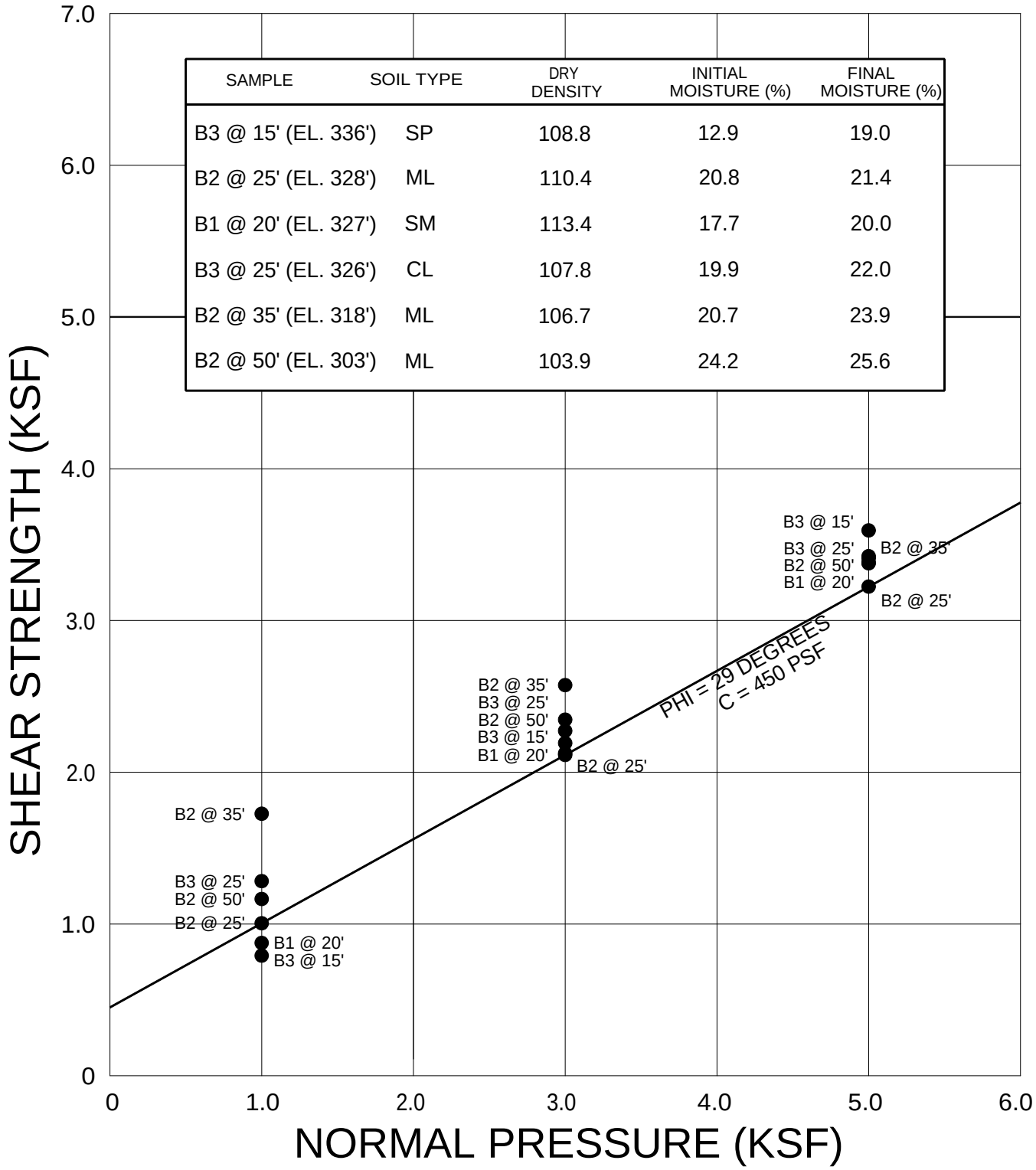
DRAFTED BY: TL | CHECKED BY: HHD

DIRECT SHEAR TEST RESULTS

UCLA CAMPUS HOUSING - UNEX
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

DECEMBER 2016 | PROJECT NO. A9060-06-09 | FIG. B1

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B3 @ 15' (EL. 336')	SP	108.8	12.9	19.0
B2 @ 25' (EL. 328')	ML	110.4	20.8	21.4
B1 @ 20' (EL. 327')	SM	113.4	17.7	20.0
B3 @ 25' (EL. 326')	CL	107.8	19.9	22.0
B2 @ 35' (EL. 318')	ML	106.7	20.7	23.9
B2 @ 50' (EL. 303')	ML	103.9	24.2	25.6



● DIRECT SHEAR, SATURATED

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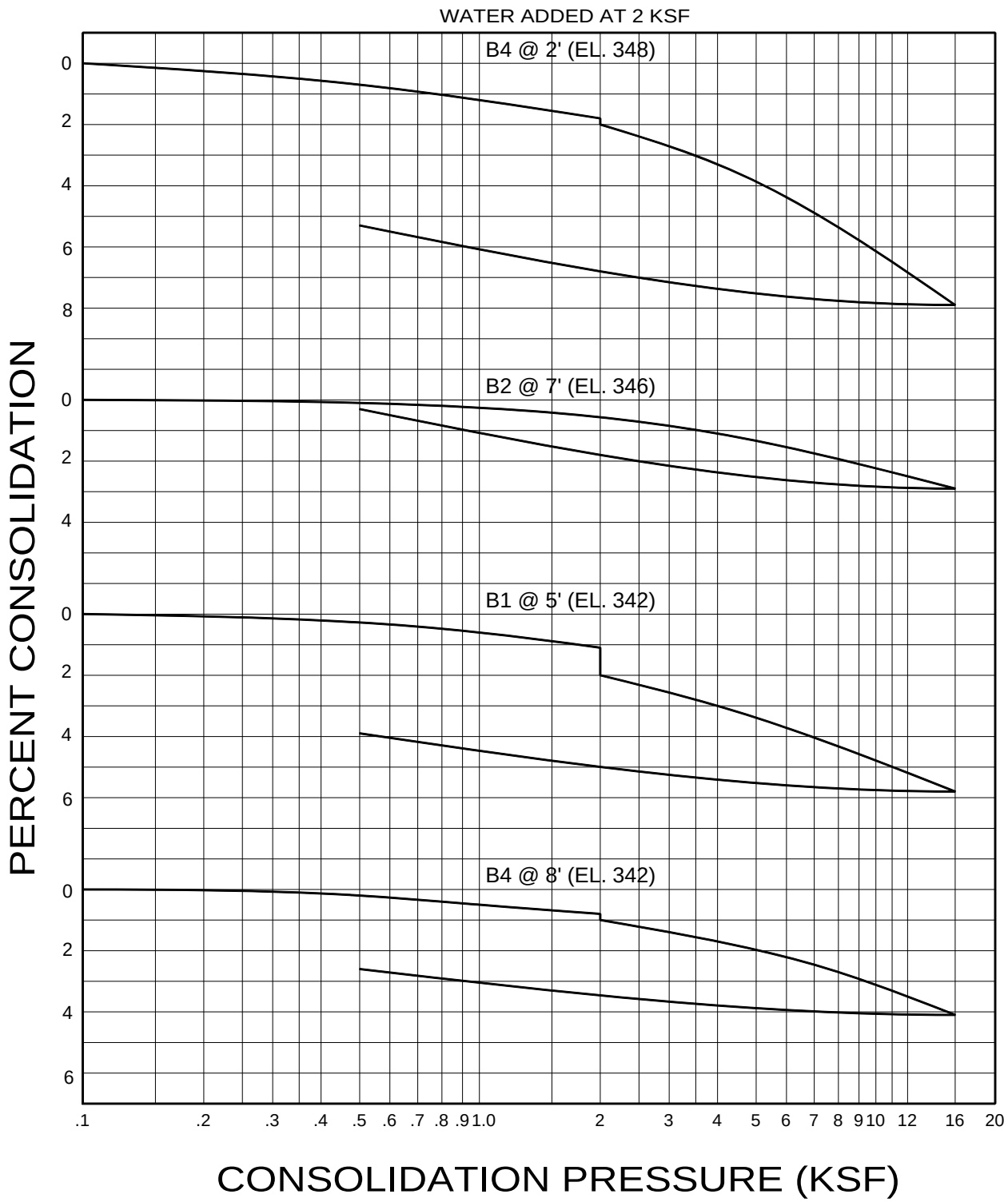
DIRECT SHEAR TEST RESULTS

UCLA CAMPUS HOUSING - UNEX
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

DECEMBER 2016 | PROJECT NO. A9060-06-09 | FIG. B2



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WEST, INC.

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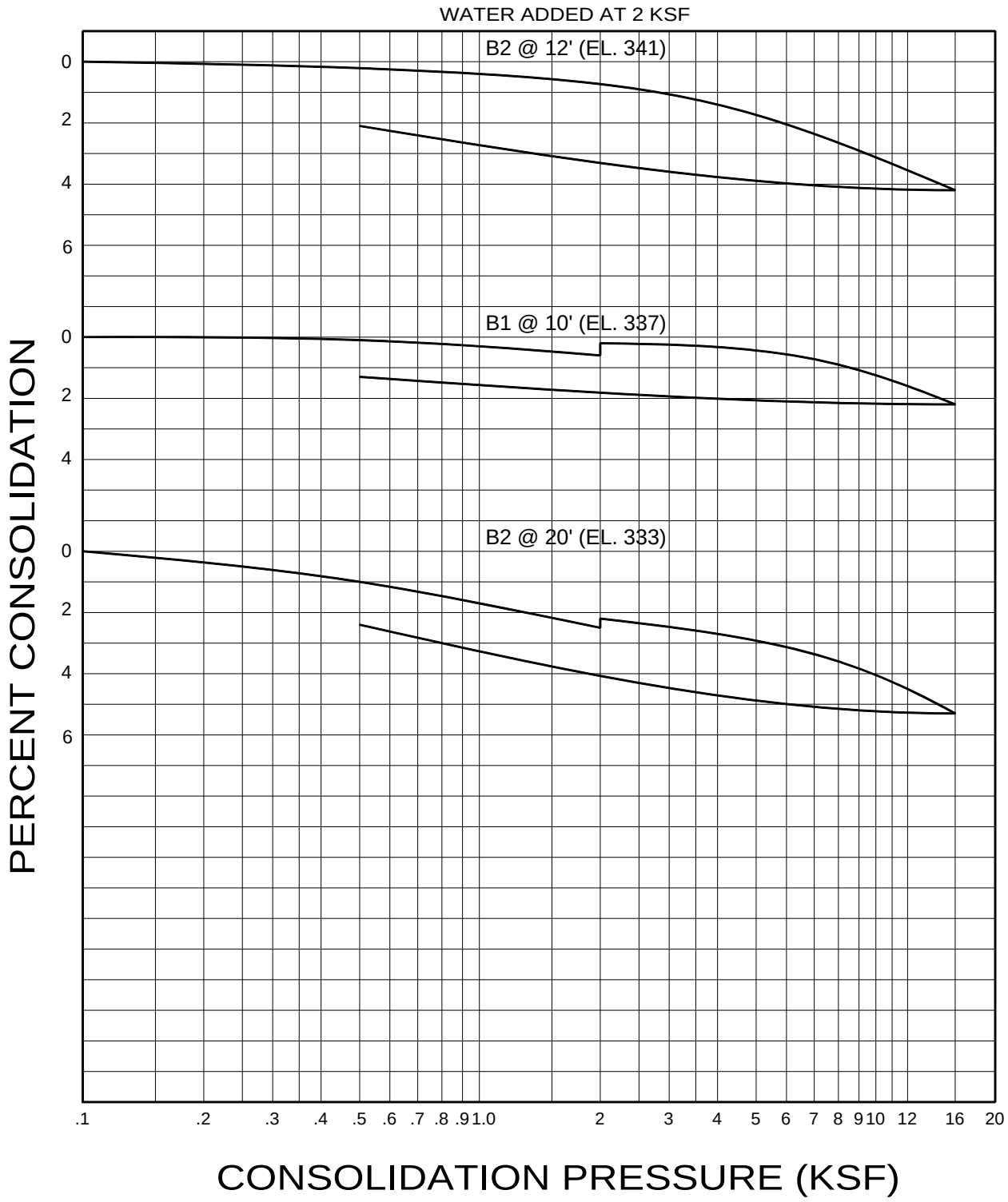
DRAFTED BY: TL | CHECKED BY: HHD

CONSOLIDATION TEST RESULTS

UCLA CAMPUS HOUSING - UNEX
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

DECEMBER 2016 | PROJECT NO. A9060-06-09 | FIG. B3



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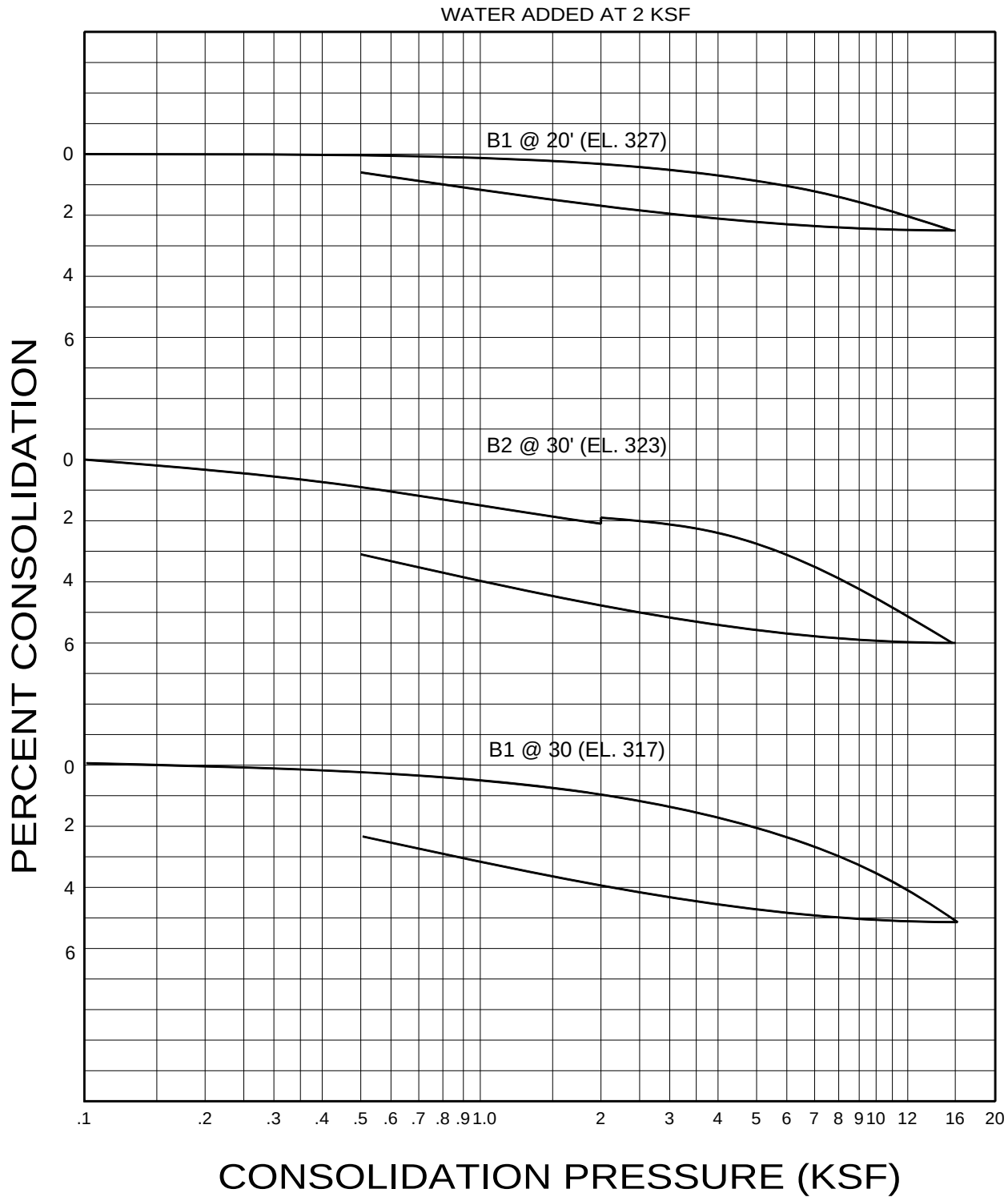
DRAFTED BY: TL	CHECKED BY: HHD

CONSOLIDATION TEST RESULTS

UCLA CAMPUS HOUSING - UNEX
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

DECEMBER 2016	PROJECT NO. A9060-06-09	FIG. B4



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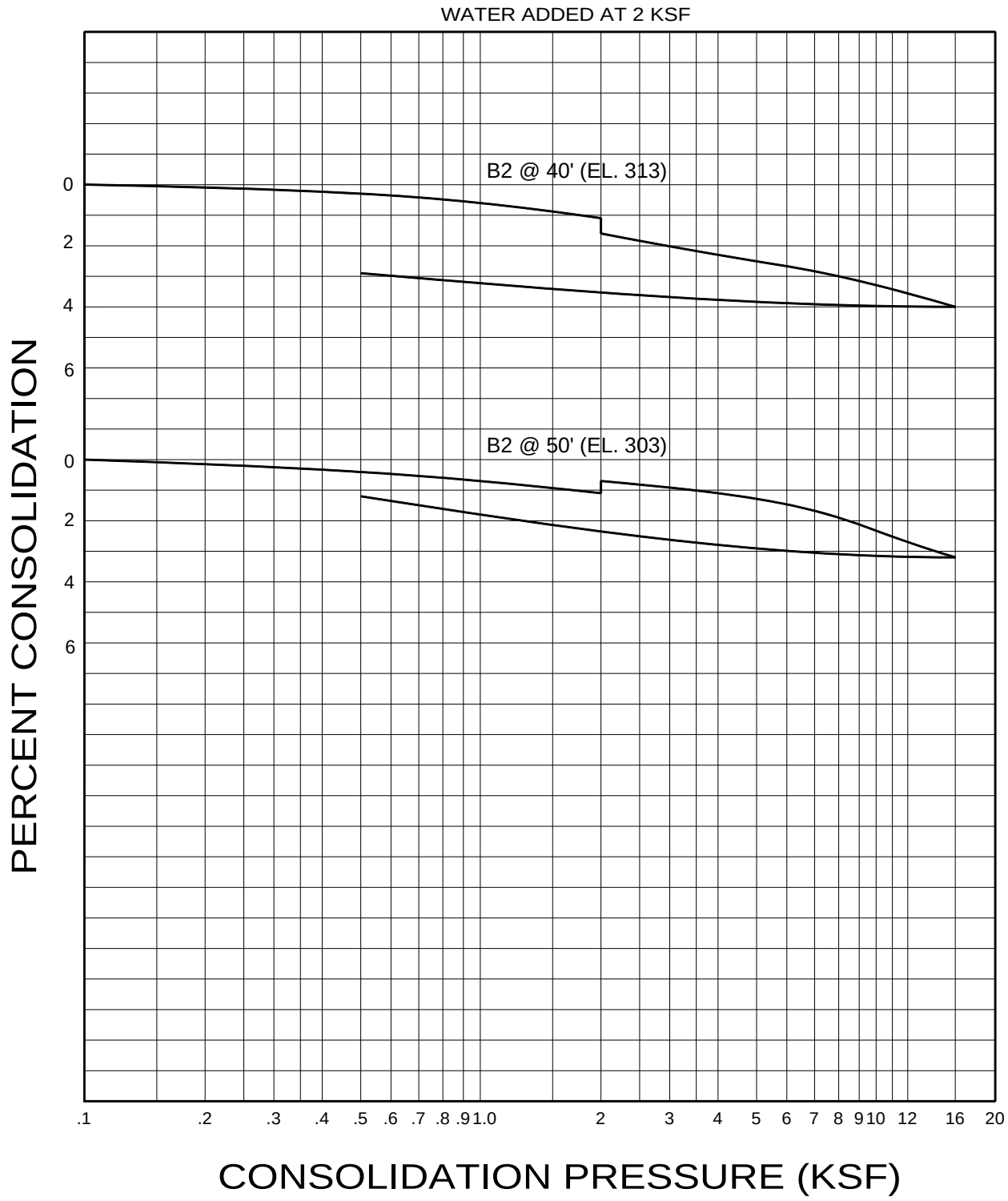
CONSOLIDATION TEST RESULTS

UCLA CAMPUS HOUSING - UNEX
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

DECEMBER 2016	PROJECT NO. A9060-06-09	FIG. B5



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PHONE (818) 841-8388 - FAX (818) 841-1704

DRAFTED BY: TL	CHECKED BY: HHD

CONSOLIDATION TEST RESULTS

UCLA CAMPUS HOUSING - UNEX
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

DECEMBER 2016	PROJECT NO. A9060-06-09	FIG. B6

SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-11

Sample No.	Moisture Content (%)		Dry Density (pcf)	Expansion Index	*UBC Classification	**CBC Classification
	Before	After				
B4 @ 0-5'	10.3	19.8	108.4	30	Low	Expansive

* Reference: 1997 Uniform Building Code, Table 18-I-B.

** Reference: 2016 California Building Code, Section 1803.5.3

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DRAFTED BY: TL | CHECKED BY: HHD

LABORATORY TEST RESULTS

UCLA CAMPUS HOUSING - UNEX
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

DECEMBER 2016 | PROJECT NO. A9060-06-09 | FIG. B7

SUMMARY OF LABORATORY POTENTIAL OF HYDROGEN (pH) AND RESISTIVITY TEST RESULTS CALIFORNIA TEST NO. 643

Sample No.	pH	Resistivity (Ohm Centimeters)
B1 @ 0-5'	8.6	2900 (Moderately Corrosive)
B2 @ 0-5'	8.2	1000 (Severely Corrosive)
B4 @ 0-5'	7.6	700 (Severely Corrosive)

SUMMARY OF LABORATORY CHLORIDE CONTENT TEST RESULTS EPA NO. 325.3

Sample No.	Chloride Ion Content (%)
B1 @ 0-5'	0.005
B2 @ 0-5'	0.007
B4 @ 0-5'	0.018

SUMMARY OF LABORATORY WATER SOLUBLE SULFATE TEST RESULTS CALIFORNIA TEST NO. 417

Sample No.	Water Soluble Sulfate (% SO_4)	Sulfate Exposure*
B1 @ 0-5'	0.004	Negligible
B2 @ 0-5'	0.045	Negligible
B4 @ 0-5'	0.024	Negligible

* Reference: 2016 California Building Code, Section 1904.3 and ACI 318-11 Section 4.3.

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CORROSIVITY TEST RESULTS

UCLA CAMPUS HOUSING - UNEX
10995 LE CONTE AVENUE
LOS ANGELES, CALIFORNIA

DECEMBER 2016 | PROJECT NO. A9060-06-09 | FIG. B8

PRELIMINARY GEOTECHNICAL INVESTIGATION

PROPOSED STUDENT HOUSING DEVELOPMENT
NORTHEAST CORNER OF GAYLEY AVENUE AND STRATHMORE DRIVE
LOS ANGELES, CALIFORNIA

GEOCON
WEST, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

UCLA CAPITAL PROGRAMS
LOS ANGELES, CALIFORNIA

PROJECT NO. A9060-06-08

DECEMBER 23, 2016

Project No. A9060-06-08
December 23, 2016

Mr. Eric Heggen
UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, California 90095

Subject: PRELIMINARY GEOTECHNICAL INVESTIGATION
PROPOSED STUDENT HOUSING DEVELOPMENT
NORTHEAST CORNER OF GAYLEY AVENUE AND STRATHMORE DRIVE
LOS ANGELES, CALIFORNIA

Dear Mr. Heggen:

In accordance with your authorization of our proposal dated August 19, 2016, we have performed a preliminary geotechnical investigation for the proposed student housing development located at northeast corner of Gayley Avenue and Strathmore Drive in the City of Los Angeles, California. The accompanying report presents the findings of our study, and our conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction. Based on the results of our investigation, it is our opinion that the site can be developed as proposed, provided the recommendations of this report are followed and implemented during design and construction.

The primary intent of this report is to address the potential geologic hazards and geotechnical conditions that could impact site development and to provide preliminary recommendations. Additional analyses will be required in order to provide comprehensive geotechnical recommendations for design and construction.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned.

Very truly yours,

GEOCON WEST, INC.

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(EMAIL) Addressee

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LIMITATIONS AND UNIFORMITY OF CONDITIONS

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- Figure 1, Vicinity Map
- Figure 2, Site Plan
- Figure 3, Regional Fault Map
- Figure 4, Regional Seismicity Map
- Figures 5 and 6, Design Response Spectrum
- Figures 7 and 8, Retaining Wall Drainage
- Table 1, Ground Motion Spectral Acceleration in g's

APPENDIX A
- FIELD INVESTIGATION
- Figures A1 through A4, Boring Logs

APPENDIX B
- LABORATORY TESTING
- Figures B1 and B2, Direct Shear Test Results
- Figures B3 through B5, Consolidation Test Results
- Figure B6, Lab Test Results
- Figure B7, Corrosivity Test Results

PRELIMINARY GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a preliminary geotechnical investigation for the proposed student housing development located northeast of Gayley Avenue and Strathmore Drive in the City of Los Angeles, California (see Vicinity Map, Figure 1). The purpose of the investigation was to evaluate subsurface soil and geologic conditions underlying the site and, based on conditions encountered, to provide conclusions and recommendations pertaining to the geotechnical aspects of design and construction. Due to the preliminary nature of the project at this time, the primary intent of this report is to address the potential geologic hazards and geotechnical conditions that could impact site development and to provide preliminary recommendations. Additional analyses will be required in order to provide comprehensive geotechnical recommendations for design and construction.

The scope of this investigation included a site reconnaissance, field exploration, laboratory testing, engineering analysis, and the preparation of this report. The site was explored on November 1 and 2, 2016, by excavating four 8-inch diameter borings to depths of approximately 40½ to 60½ feet below the existing ground surface utilizing a limited access hollow-stem auger drilling machine. The approximate locations of the exploratory borings are depicted on the Site Plan (see Figure 2). A detailed discussion of the field investigation, including boring logs, is presented in Appendix A.

Laboratory tests were performed on selected soil samples obtained during the investigation to determine pertinent physical and chemical soil properties. Appendix B presents a summary of the laboratory test results.

The recommendations presented herein are based on analysis of the data obtained during the investigation and our experience with similar soil and geologic conditions. References reviewed to prepare this report are provided in the *List of References* section.

If project details vary significantly from those described herein, Geocon should be contacted to determine the necessity for review and possible revision of this report.

2. SITE AND PROJECT DESCRIPTION

The subject site is located northeast f Gayley Avenue and Strathmore Drive in the City of Los Angeles, California. The site is an irregularly-shaped parcel and is currently occupied by a grass knoll. The site is bounded by Charles E. Young Drive West to the east, by Gayley Avenue to the west, by a two-story mixed-use structure to the north and by Strathmore Drive to the south. The site slopes gently to the east, west, and south at gradients of 4:1 (H:V) or less. Surface water drainage at the site appears to be by sheet flow along the existing ground contours to the city streets. Vegetation onsite consists of grass and trees.

Based on the information provided by the Client, it is our understanding that the proposed development will consist of an eight-story student housing structures. Due to the preliminary nature of the project, formal plans depicting the proposed development are not available for inclusion in this report. It is assumed that the proposed structures will be constructed at the grade elevation of Strathmore Drive (approximately 368 feet MSL), and due to the sloping nature of the site, the proposed structures will be tucked into the existing slope at the north end of the site. Due to the sloping nature of the site, and no specific layout of proposed structures, additional exploration and/or a revised geotechnical investigation report may be necessary once final floor elevations are determined.

Based on the preliminary nature of the design at this time, wall and column loads were not available. It is anticipated that column loads for the proposed residential structures will be up to 1,200 kips, and wall loads will be up to 12 kips per linear foot.

Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

3. GEOLOGIC SETTING

The site is located approximately 0.3 mile south of the base of the Santa Monica Mountains within an area that has been incised by the ancestral Stone Canyon drainage. The Santa Monica Mountains, formed during regional uplift, trend east-west on the north side of the Los Angeles Basin and constitute the northern basin boundary. Structurally, the Santa Monica Mountains are a broad west-plunging anticline. The south flank of the anticline is truncated by the Hollywood-Santa Monica Fault Zone which separates the mountain range from the Los Angeles Basin to the south. Rock types exposed in the eastern Santa Monica Mountains consist of metasedimentary rocks associated with the Jurassic age Santa Monica Slate, Cretaceous age igneous rocks, and Cretaceous age and Miocene age sedimentary rocks.

Regionally, the site is located in the Transverse Ranges geomorphic province near the boundary with the Peninsular Ranges geomorphic province. The Transverse Ranges geomorphic province is characterized by east-west trending geologic structures in contrast to northwest-trending geologic structures in the Peninsular Ranges geomorphic province. The boundary between the Peninsular Ranges and the Transverse Ranges geomorphic provinces in the site vicinity is the Santa Monica Fault Zone located approximately 1.4 miles south of the site.

4. SOIL AND GEOLOGIC CONDITIONS

Based on our field investigation and published geologic maps of the area, the site is underlain by artificial fill, unconsolidated Holocene age alluvial fan deposits consisting of gravel, sand, silt and clay derived from the Santa Monica Mountains to the north, and slightly consolidated Pleistocene Age older alluvium (California Geological Survey, 2010; Dibblee, 1991; Hoots, 1930). Detailed stratigraphic profiles of the materials encountered at the site are provided on the boring logs in Appendix A.

4.1 Artificial Fill

Artificial fill was encountered in borings B1, B2, and B4 at depths of 6½ feet, 4 feet, and 10 feet, respectively. Deeper fill, likely associated with an existing underground utility, was locally encountered in boring B3 (up to 25 feet). The artificial fill generally consists of brown, yellowish brown, reddish brown or grayish brown sand, clayey silt, and silt with sand and gravel. The artificial fill is characterized as slightly moist to moist and medium dense or soft to stiff. The fill is likely the result of past grading or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored.

4.2 Alluvium

Holocene age and Pleistocene age alluvium was encountered beneath the fill. The alluvium generally consists of brown, yellowish brown, grayish brown and reddish brown sandy silt, silty sand, clayey silt and silt with sand with varying amounts of fine to coarse gravel. The alluvial soils are primarily fine- to medium-grained, slightly moist to wet and medium dense to very dense or stiff to hard.

5. GROUNDWATER

Review of the Seismic Hazard Zone Report for the Beverly Hills Quadrangle (California Division of Mines and Geology [CDMG], 1998), the historically highest groundwater level in the area is approximately 40 feet or greater beneath the ground surface. Groundwater information presented in this document is generated from data collected in the early 1900's to the late 1990s. Based on current groundwater basin management practices, it is unlikely that groundwater levels will ever exceed the historic high levels.

Groundwater seepage was encountered in borings B1 and B4 at elevations of 335 feet MSL and 366 feet MSL, respectively. Based on the historic high groundwater levels in the site vicinity the groundwater seepage encountered in our borings, and the depth of proposed construction, groundwater seepage may be encountered during construction. Also, it is not uncommon for groundwater levels to vary seasonally or for groundwater seepage conditions to develop where none previously existed, especially in impermeable fine-grained soils which are heavily irrigated or after seasonal rainfall. In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the immediate site vicinity. Proper surface drainage of irrigation and precipitation will be critical for future performance of the project. Recommendations for drainage are provided in the S*urface Drainage* section of this report (see Section 7.22).

6. GEOLOGIC HAZARDS

6.1 Surface Fault Rupture

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (CGS, formerly known as CDMG) for the Alquist-Priolo Earthquake Fault Zone Program (CGS, 2016; Bryant and Hart, 2007). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a state-designated Alquist-Priolo Earthquake Fault Zone (Bryant and Hart, 2007) or a city-designated Preliminary Fault Rupture Study Area (City of Los Angeles, 2016) for surface fault rupture hazards. No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low. However, the site is located in the seismically active Southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults. The faults in the vicinity of the site are shown in Figure 3, Regional Fault Map.

The nearest surface trace of an active fault to the site is the Santa Monica Fault located approximately 1.4 miles to the south (Ziony and Jones, 1989). Other nearby active faults are the Newport-Inglewood Fault Zone, the Hollywood Fault, the Malibu Coast Fault, the Raymond Fault, the Verdugo Fault, and the Palos Verdes Hills Fault, located approximately 1.8 miles northeast, 2.4 miles northeast, 6.3 miles west, 13.1 miles northeast, 13.3 miles northeast, and 17.2 miles south-southwest of the site, respectively (Ziony and Jones, 1989). The active San Andreas Fault Zone is located approximately 38 miles northeast of the site (Ziony and Jones, 1989).

The closest potentially active fault to the site is the Overland Fault located approximately 2.4 miles to the southeast (Ziony and Jones, 1989). Other nearby potentially active faults are the Charnock Fault and the MacArthur Park Fault located approximately 3.9 miles south and 9.5 miles east of the site, respectively (Ziony and Jones, 1989).

Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3.0 kilometers. The October 1, 1987 M_w 5.9 Whittier Narrows earthquake and the January 17, 1994 M_w 6.7 Northridge earthquake were a result of movement on the Puente Hills Blind Thrust and the Northridge Thrust, respectively. These thrust faults and others in the Los Angeles area are not exposed at the surface and do not present a potential surface fault rupture hazard at the site; however, these

deep thrust faults are considered active features capable of generating future earthquakes that could result in moderate to significant ground shaking at the site.

6.2 Seismicity

As with all of Southern California, the site has experienced historic earthquakes from various regional faults. The seismicity of the region surrounding the site was formulated based on research of an electronic database of earthquake data. The epicenters of recorded earthquakes with magnitudes equal to or greater than 5.0 in the site vicinity are depicted on Figure 4, Regional Seismicity Map. A partial list of moderate to major magnitude earthquakes that have occurred in the Southern California area within the last 100 years is included in the following table.

LIST OF HISTORIC EARTHQUAKES

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
San Jacinto-Hemet area	April 21, 1918	6.8	86	ESE
Near Redlands	July 23, 1923	6.3	69	E
Long Beach	March 10, 1933	6.4	42	SE
Tehachapi	July 21, 1952	7.5	72	NW
San Fernando	February 9, 1971	6.6	24	N
Whittier Narrows	October 1, 1987	5.9	21	E
Sierra Madre	June 28, 1991	5.8	29	ENE
Landers	June 28, 1992	7.3	115	E
Big Bear	June 28, 1992	6.4	93	E
Northridge	January 17, 1994	6.7	11	NW
Hector Mine	October 16, 1999	7.1	130	ENE

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the proposed structures are designed and constructed in conformance with current building codes and engineering practices.

6.3 Ground Motion Hazard Analysis

Ground motion hazard analyses were performed in accordance with ASCE 7-10 and Section 1613 of the 2016 CBC utilizing the computer program EZFRISK (version 7.65) in conjunction with data from the U.S. Seismic Design Maps web application provided by the USGS.

6.3.1 Probabilistic Seismic Hazard Analysis

The probabilistic Maximum Considered Earthquake (MCE_R) response spectrum consists of the spectral response accelerations which are expected to achieve a 1 percent probability of collapse within a 50-year period, evaluated at 5 percent damping. The procedure described in ASCE 7-10 Section 21.2.1.1 as Method 1 was used to evaluate the probabilistic response spectrum.

The spectral response accelerations having a 2 percent chance of exceedance in 50 years were evaluated at 5 percent damping. The probabilistic analysis was performed using the ground motion prediction equations (GMPEs) of Abrahamson and Silva (2008) NGA MRC (next generation attenuation, maximum rotated component), Boore and Atkinson (2008) NGA USGS 2008 MRC, Campbell-Bozorgnia (2008) NGA USGS 2008 MRC, and Chiou-Youngs (2007) NGA USGS 2008 MRC. Each GMPE was assigned an equal weight and the maximum rotated component of ground motion derived from the relationships was evaluated. It is our opinion that the use of these four GMPEs is appropriate for the subject site.

The probabilistic analysis was performed by evaluating the ground motions generated by active faults within a 120 mile (200 kilometer) radius of the site. The soil underlying the site was modeled with a Site class located on the boundary of Site Classes "C" and "D". This is based on the relatively dense nature of the older alluvial deposits, as well as information available from the Community Velocity Model (CVM) Version 4 developed by Southern California Earthquake Data Center (SCEDC). An average shear wave velocity (V_S30) of 360 meters per second was used for the analysis.

The GMPE of Campbell and Borzorgnia requires that the depth to where the shear wave velocity reaches 2.5 kilometers per second (Z2.5) be defined. Additionally, the GMPE of Abrahamson and Silva requires that the depth to where the shear wave velocity reaches 1 kilometer per second (Z1.0) be defined. The values of Z2.5 and Z1.0 were estimated using data from the Community Velocity Model (CVM) Version 4 developed by Southern California Earthquake Data Center (SCEDC). The values of Z2.5 and Z1.0 used in the analysis are 0.31 kilometers and 80 meters, respectively.

According to ASCE 7-10 Section 21.2.1.1 Method 1, the probabilistic MCE_R spectral response accelerations may be determined as the product of the spectral response accelerations having a 2 percent chance of exceedance in 50 years and the risk coefficient C_R. The value of C_R at 0.2 seconds (C_{RS}) and 1 second (C_{R1}) were determined from ASCE 7-10 Figures 22-17 and 22-18, respectively. At spectral response accelerations less than or equal to 0.2 seconds, the value of C_R was taken as C_{RS} and at spectral response accelerations greater than or equal to 1.0 seconds the value of C_R was taken as C_{R1}. Liner interpolation was used to evaluate the values of C_R between 0.2 and 1.0 seconds.

6.3.2 Deterministic Seismic Hazard Analysis

The deterministic analysis was performed using the same GMPEs as the probabilistic analysis, as well as the same active faults within a within a 120 mile (200 kilometer) radius of the site and the same values of Z1.0 and Z2.5. The 84th percentile of the maximum rotated component of ground motion derived from the GMPEs was evaluated.

Based on the results of the analysis, the fault source resulting in the highest spectral accelerations from 0 to 4 seconds would be a magnitude 7.4 event on the Santa Monica fault.

The 84th percentile of the maximum rotated component of ground motion was compared to the Deterministic Lower Limit MCE_R response spectrum, and the maximum values taken as the deterministic MCE_R response spectrum.

6.3.3 Site-Specific Response Spectrum

The lesser of the probabilistic and deterministic MCE_R response spectrums is the Site-Specific MCE_R. Two-thirds of the Site-Specific MCE_R is the Design Earthquake (DE) Response Spectrum, provided the results are not less than 80 percent of the General Design Response Spectrum determined by ASCE 7-10 Section 11.4.5.

Graphical representations of the analyses are presented on Figures 5 and 6. The Site-Specific Design Earthquake response spectrum at 5 percent damping is presented on Figure 6 and as Table 1.

6.3.4 Mapped Acceleration Parameters

The following table summarizes the mapped acceleration parameters obtained from the 2016 California Building Code (CBC; Based on the 2015 International Building Code [IBC] and ASCE 7-10), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The data was calculated using the computer program U.S. Seismic Design Maps, provided by the USGS. The short spectral response uses a period of 0.2 second.

MAPPED SPECTRAL ACCELERATIONS

Parameter	Value	2016 CBC Reference
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	2.234g	Figure 1613.3.1(1)
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.813g	Figure 1613.3.1(2)

6.3.5 Site-Specific Seismic Design Criteria

Based the site-specific ground motion hazard analysis performed, and in accordance with the ASCE 7-10 Section 21.4, site-specific seismic design parameters shall be derived using the results of the site-specific ground motion hazard analysis.

The parameter S_{DS} shall be obtained from the site-specific spectra at a period of 0.2 second and not less than 90 percent of the peak spectra acceleration at any period larger than 0.2 second. The parameter S_{D1} shall be taken as the greater of the site-specific spectral acceleration at a period of 1.0 second or twice the spectral acceleration at a period of 2 seconds (whichever is greater). The values of S_{MS} and S_{M1} shall be taken as 1.5 times the site-specific values of S_{DS} and S_{D1}. The site-specific seismic design parameters shall not be less than 80 percent of the general seismic design values determined by ASCE 7-10 Section 11.4.

The following table presents the site-specific seismic design parameters based on the site-specific ground motion hazard analysis.

SITE-SPECIFIC SEISMIC DESIGN PARAMETERS

Parameter	Value
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	2.156g
Site Class Modified MCE_R Spectral Response Acceleration – (1 sec), S_{M1}	1.32g
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.437g
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.88g

6.3.6 Site-Specific Peak Ground Acceleration

The site-specific Maximum Considered Earthquake (MCE_G) geometric mean peak ground acceleration was evaluated in accordance with ASCE 7-10 Section 21.5.

The probabilistic geometric mean peak ground acceleration was evaluated using the computer program EZFrisk. The analysis was performed using the GMPE of Abrahamson and Silva (2008) NGA (next generation attenuation), Boore and Atkinson (2008) NGA USGS 2008, Campbell-Bozorgnia (2008) NGA USGS 2008, and Chiou-Youngs (2007) NGA USGS 2008. Each GMPE was assigned an equal weight. The analysis used the same faults, shear wave velocity, and values of Z2.5 and Z1.0 as described above.

The probabilistic geometric mean peak ground acceleration (probabilistic MCE_G) was evaluated at a 2 percent probability of exceedance with a 50 year period.

The deterministic geometric mean peak ground acceleration (deterministic MCE_G) was evaluated as the 84th percentile geometric mean peak ground acceleration. The deterministic MCE_G shall not be less than $0.5F_{PGA}$, where F_{PGA} is determined from ASCE 7-10 Table 11.8-1 with the value of PGA taken as 0.5g.

The site-specific MCE_G peak ground acceleration is taken as the lesser of the probabilistic and deterministic MCE_G, provided the value is not less than 80 percent of the value of PGA_M as determined by ASCE 7-10 Equation 11.8.1.

ASCE 7-10 SITE-SPECIFIC PEAK GROUND ACCELERATION

Parameter	Value	ASCE 7-10 Reference
Site-Specific MCE_G Peak Ground Acceleration, PGA_M	0.897g	Section 21.5

6.4 Liquefaction Potential

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The current standard of practice, as outlined in the "Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California" and "Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California" requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction.

The State of California Seismic Hazard Zone Map for the Beverly Hills Quadrangle (1999) indicates that the site is not located in an area designated as having a potential for liquefaction. Therefore, it is our opinion that the potential for liquefaction and associated ground deformations beneath the site is very low.

6.5 Slope Stability

The topography at the site slopes gently to the east, west, and south at gradients of 4:1 (H:V) or less. The site is located within a City of Los Angeles Hillside Grading Area and not within a Hillside Ordinance Area (City of Los Angeles, 2016). The site is not within an area identified as having a potential for seismic slope instability (CDMG, 1999). Also, there are no known landslides near the site, nor is the site in the path of any known or potential landslides. Therefore, the potential for slope stability hazards to adversely affect the proposed development is considered low.

6.6 Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. The Los Angeles County Safety Element (Leighton, 1990) indicates that the site is located within the Stone Canyon Dam inundation area. However, this reservoir, as well as others in California, are continually monitored by various governmental agencies (such as the State of California Division of Safety of Dams and the U.S. Army Corps of Engineers) to guard against the threat of dam failure. Current design, construction practices, and ongoing programs of review, modification, or total reconstruction of existing dams are intended to ensure that all dams are capable of withstanding the maximum considered earthquake (MCE) for the site. Therefore, the potential for inundation at the site as a result of an earthquake-induced dam failure is considered low.

6.7 Tsunamis, Seiches, and Flooding

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. Therefore, flooding resulting from a seismically-induced seiche is considered unlikely.

The site is within an area of minimal flooding (Zone X) as defined by the Federal Emergency Management Agency (LACDPW, 2016b).

6.8 Oil Fields & Methane Potential

Based on a review of the California Division of Oil, Gas and Geothermal Resources (DOGGR) Oil and Gas Well Location Map W1-2, the site is not located within the limits of an oilfield and oil or gas wells are not located in the immediate site vicinity. However, due to the voluntary nature of record reporting by the oil well drilling companies, wells may be improperly located or not shown on the location map and undocumented wells could be encountered during construction. Any wells encountered during construction will need to be properly abandoned in accordance with the current requirements of the DOGGR.

The site is not located within the boundaries of a city-designated Methane Zone or Methane Buffer Zone (City of Los Angeles, 2016). Since the site is not located within the boundaries of a known oil field, the potential for the presence of methane or other volatile gases at the site is considered low. However, should it be determined that a methane study is required for the proposed development it is recommended that a qualified methane consultant be retained to perform the study and provide mitigation measures as necessary.

6.9 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

7.1.1 It is our opinion that neither soil nor geologic conditions were encountered during the investigation that would preclude the construction of the proposed development provided the recommendations presented herein are followed and implemented during design and construction.

7.1.2 Existing artificial fill was encountered to an elevation of approximately 365.5 feet MSL during the site investigation. The existing fill encountered is believed to be the result of past grading and construction activities at the site. Deeper fill may exist in other areas of the site that were not directly explored. It is assumed that the proposed structures will be constructed at the grade elevation of Strathmore Drive (approximately 368 feet MSL); therefore, the proposed structures are anticipated to penetrate through the existing fill and expose competent older alluvial soils throughout the excavation bottom. The existing fill and site soils are suitable for re-use as engineered fill provided the recommendations in the Grading section of this report are followed (see Section 7.4).

7.1.3 Based on these considerations, the proposed structures may be supported on a conventional foundation system deriving support in the dense competent alluvial soils. Competent alluvial soils are generally found at or below an elevation of 365.5 feet MSL. Foundations should be deepened as necessary to penetrate through any existing fill and unsuitable alluvial soils in order to derive support in dense, competent alluvial soils. All foundation excavations must be observed and approved in writing by the Geotechnical Engineer prior to placement of steel or concrete. Recommendations for the design of a conventional foundation system are provided in Section 7.5.

7.1.4 Once proposed building loads become available and elevations are established, additional analyses will be required to evaluate the anticipated total and differential settlements between the foundation elements. Updated foundation design recommendations will be provided as necessary under separate cover.

7.1.5 The concrete slab-on-grade may derive support on newly placed engineered fill and/or directly on undisturbed alluvial soils. Any soils that are disturbed should be properly compacted for slab support. Where necessary, the existing artificial fill and alluvial soils are suitable for re-use as an engineered fill provided the procedures outlined in the Grading section of this report are followed (see Section 7.4).

7.1.6 Excavations on the order of 40 feet in vertical height are anticipated for construction based on the assumption that the north end of the structures will be tucked into the existing grade. Due to the depth of the excavation and the proximity to the property lines, city streets and adjacent offsite structures, excavation of the proposed subterranean (tucked in) portion of the structure will require sloping and/or shoring measures in order to provide a stable excavation. Where shoring is required it is recommended that a soldier pile shoring system be utilized. In addition, where the proposed excavation will be deeper than and adjacent to an offsite structure, the proposed retaining wall and shoring systems should be designed to resist the surcharge imposed by the adjacent offsite structure. Recommendations for shoring are provided in Section 7.16.

7.1.7 Due to the nature of the proposed design and intent for subterranean levels, waterproofing of subterranean walls and slabs is suggested. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.1.8 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied-in to the proposed structure, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill. Where excavation and compaction cannot be performed, such as adjacent to property lines, foundations may be deepened to derive support in undisturbed competent alluvial soils and must be observed and approved by a Geocon representative. If the soils exposed in the excavation bottom are soft, compaction of the soft soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

7.1.9 Based on the results of percolation testing performed at the site, a stormwater infiltration system is not recommended for this project. It is recommended that stormwater be retained, filtered, and discharged in accordance with the requirements of the local governing agency.

7.1.10 Once the design and foundation loading configuration for the proposed structures proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Based on the final foundation loading configurations, the potential for settlement should be re-evaluated by this office.

7.1.11 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

7.2 Soil and Excavation Characteristics

7.2.1 The in-situ soils can be excavated with moderate effort using conventional excavation equipment. Some caving should be anticipated in unshored excavations, especially where granular soils are encountered.

7.2.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of existing adjacent improvements.

7.2.3 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping or shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 7.15).

7.2.4 The upper 5 feet of existing site soils encountered during this investigation are considered to have a "low" expansive potential (EI = 21); and are classified as "expansive" based on the 2016 California Building Code (CBC) Section 1803.5.3. Recommendations presented herein assume that the building foundations and slabs will derive support in these materials.

7.3 Minimum Resistivity, pH, and Water-Soluble Sulfate

7.3.1 Potential of Hydrogen (pH) and resistivity testing as well as chloride content testing were performed on representative samples of soil to generally evaluate the corrosion potential to surface utilities. The tests were performed in accordance with California Test Method Nos. 643 and 422 and indicate that the soils are considered "corrosive" with respect to corrosion of buried ferrous metals on site. The results are presented in Appendix B (Figure B7) and should be considered for design of underground structures. Due to the corrosive potential of the soils, it is recommended that ABS pipes are utilized in lieu of cast-iron for subdrains and retaining wall drains.

7.3.2 Laboratory tests were performed on representative samples of the site materials to measure the percentage of water-soluble sulfate content. Results from the laboratory water-soluble sulfate tests are presented in Appendix B (Figure B7) and indicate that the on-site materials possess "negligible" sulfate exposure to concrete structures as defined by 2016 CBC Section 1904 and ACI 318-11 Sections 4.2 and 4.3.

7.3.3 Geocon West, Inc. does not practice in the field of corrosion engineering and mitigation. If corrosion sensitive improvements are planned, it is recommended that a corrosion engineer be retained to evaluate corrosion test results and incorporate the necessary precautions to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soils.

7.4 Grading

7.4.1 Grading is anticipated to include excavation of site soils for foundations, utility trenches, and the subterranean portion of the proposed structures, as well as placement of backfill for walls and trenches.

7.4.2 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill and alluvial soil encountered during exploration is suitable for re-use as engineered fill, provided any encountered oversize material (greater than 6 inches) and any encountered deleterious debris are removed.

7.4.3 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer, geotechnical engineer, and building official in attendance. Special soil handling requirements can be discussed at that time.

7.4.4 Grading should commence with the removal of all existing vegetation and existing improvements from the area to be graded. Deleterious debris such as wood and root structures should be exported from the site and should not be mixed with the fill soils. Asphalt and concrete should not be mixed with the fill soils unless approved by the Geotechnical Engineer. All existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein. Once a clean excavation bottom has been established it must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.).

7.4.5 All fill and backfill soils should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to optimum moisture content, and properly compacted to a minimum 90 percent of the maximum dry density in accordance with ASTM D 1557 (latest edition).

7.4.6 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied to the proposed building, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and proper compaction cannot be performed or is undesirable, foundations may be deepened to maintain a minimum 12 inch embedment into undisturbed competent alluvial soils and must be observed and approved by a Geocon representative. If the soils exposed in

the excavation bottom are soft or loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

7.4.7 Although not anticipated for this project, all imported fill shall be observed, tested, and approved by Geocon West, Inc. prior to bringing soil to the site. Rocks larger than 6 inches in diameter shall not be used in the fill. If necessary, import soils used as structural fill should have an expansion index less than 20 and soil corrosivity properties that are equally or less detrimental to that of the existing onsite soils (see Figure B7).

7.4.8 Utility trenches should be properly backfilled in accordance with the requirements of the Green Book (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least 1 foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of Geocon). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of minimum 2-sack slurry is also acceptable as backfill. Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon).

7.4.9 All trench and foundation excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding materials, fill, steel, gravel, or concrete.

7.5 Foundation Design

7.5.1 The proposed structures may be supported on a conventional foundation system deriving support in the dense competent alluvial soils generally found at or below an elevation of 365.5 feet MSL. Foundations should be deepened as necessary to penetrate through any existing fill and unsuitable alluvial soils in order to derive support in dense competent alluvial soils. Foundations should be deepened as necessary at the direction of the Geotechnical Engineer (a representative of Geocon).

7.5.2 Continuous footings may be designed for an allowable bearing capacity of 3,400 pounds per square foot (psf), and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

7.5.3 Isolated spread foundations may be designed for an allowable bearing capacity of 4,000 psf, and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

7.5.4 The allowable soil bearing pressure above may be increased by 300 psf and 600 psf for each additional foot of foundation width and depth, respectively, up to a maximum allowable soil bearing pressure of 6,100 psf.

7.5.5 The allowable bearing pressures may be increased by one-third for transient loads due to wind or seismic forces.

7.5.6 Continuous footings should be reinforced with four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. Reinforcement for spread footings should be designed by the project structural engineer.

7.5.7 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.

7.5.8 No special subgrade presaturation is required prior to placement of concrete. However, the slab and foundation subgrade should be sprinkled as necessary; to maintain a moist condition as would be expected in any concrete placement.

7.5.9 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.

7.5.10 This office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

7.6 Foundation Settlement

7.6.1 The maximum expected static settlement for a structures supported on a conventional foundation system deriving support in the recommended bearing materials and designed with a maximum bearing pressure of 6,100 psf is estimated to be less than 1¼ inches and occur below the heaviest loaded structural element. Settlement of the foundation system is expected to occur on initial application of loading. It is anticipated that the maximum settlement will occur closer to Strathmore Place. Differential settlement can't be determined until building loads and elevations are provided due to the potential for overburden removal.

7.6.2 Once the design and foundation loading configurations for the proposed structures proceeds to a more finalized plan, the estimated settlements presented in this report should be reviewed and revised, if necessary. If the final foundation loading configurations are greater than the assumed loading conditions, the potential for settlement should be reevaluated by this office.

7.7 Miscellaneous Foundations

7.7.1 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied-in to the proposed structure, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill. Where excavation and compaction cannot be performed, such as adjacent to property lines, foundations may be deepened to maintain a minimum 12 inch embedment into undisturbed competent alluvial soils and must be observed and approved by a Geocon representative. If the soils exposed in the excavation bottom are loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative. Miscellaneous foundations may be designed for a bearing value of 1,500 psf, and should be a minimum of 12 inches in width, 24 inches in depth below the lowest adjacent grade and 12 inches into the recommended bearing material. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.

7.7.2 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated.

7.8 Lateral Design

7.8.1 Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. An allowable coefficient of friction of 0.40 may be used with the dead load forces in the competent alluvial soils or in properly compacted engineered fill.

7.8.2 Passive earth pressure for the sides of foundations and slabs poured against properly compacted engineered fill or competent alluvial soils may be computed as an equivalent fluid having a density of 260 pcf with a maximum earth pressure of 2,600 psf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

7.9 Concrete Slabs-On-Grade

7.9.1 Unless specifically evaluated and designed by a qualified structural engineer, the slab-on-grade subject to vehicle loading should be a minimum of 6 inches of concrete reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions and positioned vertically near the slab midpoint. The concrete slab-on-grade may bear directly on the undisturbed alluvial soils found at the excavation bottom. Any disturbed soils should be properly compacted for slab support. The ramp may derive support in the undisturbed alluvial soils and/or engineered fill compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

7.9.2 Slabs-on-grade at the ground surface that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed directly beneath the slab. The vapor retarder and acceptable permeance should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06) and should be installed in general conformance with ASTM E 1643 (latest edition) and the manufacturer's recommendations. A minimum thickness of 15 mils extruded polyolefin plastic is recommended; vapor retarders which contain recycled content or woven materials are not recommended. The vapor retarder should have a permeance of less than 0.01 perms demonstrated by testing before and after mandatory conditioning. The vapor retarder should be installed in direct contact with the concrete slab with proper perimeter seal. If the California Green Building Code requirements apply to this project, the vapor retarder should be underlain by 4 inches of clean aggregate. It is important that the vapor retarder be puncture resistant since it will be in direct contact with angular gravel. As an alternative to the clean aggregate suggested in the California Green Building Code, it is our opinion that the concrete slab-on-grade may be underlain by a vapor retarder over 4 inches of clean sand (sand equivalent greater than 30), since the sand will serve a capillary break and will minimize the potential for punctures and damage to the vapor barrier.

7.9.3 Due to the nature of the subterranean level, waterproofing of subterranean walls and slabs is suggested. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.9.4 For seismic design purposes, a coefficient of friction of 0.40 may be utilized between concrete slabs and subgrade soils without a moisture barrier, and 0.15 for slabs underlain by a moisture barrier.

7.9.5 Exterior slabs for walkways or flatwork, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Prior to construction of slabs, the upper 12 inches of subgrade should be moistened to optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Crack control joints should be spaced at intervals not greater than 10 feet and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. The project structural engineer should design construction joints as necessary.

7.9.6 The recommendations of this report are intended to reduce the potential for cracking of slabs due to settlement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

7.10 Retaining Walls Design

7.10.1 The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 40 feet. In the event that walls higher than 40 feet are planned, Geocon should be contacted for additional recommendations.

7.10.2 Retaining wall foundations may be designed in accordance with the recommendations provided in the *Foundation Design* sections of this report (see Section 7.5).

7.10.3 Retaining walls with a level backfill surface that are not restrained at the top should be designed utilizing a triangular distribution of pressure (active pressure). Restrained walls are those that are not allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, walls may be designed utilizing a triangular distribution of pressure (at-rest pressure). The table below presents recommended pressures to be used in retaining wall design, assuming that proper drainage will be maintained.

RETAINING WALL WITH LEVEL BACKFILL SURFACE

HEIGHT OF RETAINING WALL (Feet)	ACTIVE PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)	AT-REST PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)
Up to 20	30	50
21-30	34	54
31-40	39	59

7.10.4 The wall pressures provided above assume that the retaining wall will be properly drained preventing the buildup of hydrostatic pressure. If retaining wall drainage is not implemented, the equivalent fluid pressure to be used in design of undrained walls is 90 pcf. The value includes hydrostatic pressures plus buoyant lateral earth pressures.

7.10.5 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures and should be designed for each condition as the project progresses.

7.10.6 It is recommended that line-load surcharges from adjacent wall footings, use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.20 \times \left(\frac{z}{H}\right)}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.28 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

where x is the distance from the face of the excavation or wall to the vertical line-load, H is the distance from the bottom of the footing to the bottom of excavation or wall, z is the depth at which the horizontal pressure is desired, Q_L is the vertical line-load and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.10.7 It is recommended that vertical point-loads, from construction equipment outriggers or adjacent building columns use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.28 \times \left(\frac{z}{H}\right)^2}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.77 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)^2}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

then

$$\sigma'_H(z) = \sigma_H(z) cos^2(1.1\theta)$$

where x is the distance from the face of the excavation/wall to the vertical point-load, H is distance from the outrigger/bottom of column footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, Q_P is the vertical point-load, $\sigma_H(z)$ is the horizontal pressure at depth z, θ is the angle between a line perpendicular to the excavation/wall and a line from the point-load to location on the excavation/wall where the surcharge is being evaluated, and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.10.8 In addition to the recommended earth pressure, the upper ten feet of the retaining wall adjacent to the street or driveway areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the wall due to normal street traffic. If the traffic is kept back at least ten feet from the wall, the traffic surcharge may be neglected.

7.10.9 Seismic lateral forces should be incorporated into the design as necessary, and recommendations for seismic lateral forces are presented below.

7.11 Dynamic (Seismic) Lateral Forces

7.11.1 The structural engineer should determine the seismic design category for the project in accordance with Section 1613 of the CBC. If the project possesses a seismic design category of D, E, or F, proposed retaining walls in excess of 6 feet in height should be designed with seismic lateral pressure (Section 1803.5.12 of the 2016 CBC).

7.11.2 A seismic load of 10 pcf should be used for design of walls that support more than 6 feet of backfill in accordance with Section 1803.5.12 of the 2016 CBC. The seismic load is applied as an equivalent fluid pressure along the height of the wall and the calculated loads result in a maximum load exerted at the base of the wall and zero at the top of the wall. This seismic load should be applied in addition to the active earth pressure. The earth pressure is based on half of two-thirds of PGA_M calculated from ASCE 7-10 Section 11.8.3.

7.12 Retaining Wall Drainage

7.12.1 Retaining walls should be provided with a drainage system. At the base of the drain system, a subdrain covered with a minimum of 12 inches of gravel should be installed, and a compacted fill blanket or other seal placed at the surface (see Figure 7). The clean bottom and subdrain pipe, behind a retaining wall, should be observed by the Geotechnical Engineer (a representative of Geocon), prior to placement of gravel or compacting backfill.

7.12.2 As an alternative, a plastic drainage composite such as Miradrain or equivalent may be installed in continuous, 4-foot wide columns along the entire back face of the wall, at 8 feet on center. The top of these drainage composite columns should terminate approximately 18 inches below the ground surface, where either hardscape or a minimum of 18 inches of relatively cohesive material should be placed as a cap (see Figure 8). These vertical columns of drainage material would then be connected at the bottom of the wall to a collection panel or a 1-cubic-foot rock pocket drained by a 4-inch subdrain pipe.

7.12.3 Subdrainage pipes at the base of the retaining wall drainage system should outlet to an acceptable location via controlled drainage structures. Drainage should not be allowed to flow uncontrolled over descending slopes.

7.12.4 Moisture affecting below grade walls is one of the most common post-construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.13 Elevator Pit Design

7.13.1 The elevator pit slab and retaining wall should be designed by the project structural engineer. Elevator pit walls may be designed in accordance with the recommendations in the *Foundation Design* and *Retaining Wall Design* sections of this report (see Sections 7.5 and 7.10).

7.13.2 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent foundations and should be designed for each condition as the project progresses.

7.16.3 If retaining wall drainage is to be provided, the drainage system should be designed in accordance with the *Retaining Wall Drainage* section of this report (see Section 7.12).

7.13.3 It is suggested that the exterior walls and slab be waterproofed to prevent excessive moisture inside of the elevator pit. Waterproofing design and installation is not the responsibility of the geotechnical engineer.

7.14 Elevator Piston

7.14.1 If a plunger-type elevator piston is installed for this project, a deep drilled excavation will be required. It is important to verify that the drilled excavation is not situated immediately adjacent to a foundation or shoring pile, or the drilled excavation could compromise the existing foundation or pile support, especially if the drilling is performed subsequent to the foundation or pile construction.

7.14.2 Some caving may occur and the contractor should be prepared to use casing and should have it readily available at the commencement of drilling activities. Continuous observation of the drilling and installation of the elevator piston by the Geotechnical Engineer (a representative of Geocon West, Inc.) is required.

7.14.3 The annular space between the piston casing and drilled excavation wall should be filled with a minimum of 1½-sack slurry pumped from the bottom up. As an alternative, pea gravel may be utilized. The use of soil to backfill the annular space is not acceptable.

7.15 Temporary Excavations

7.15.1 Excavations on the order of 40 feet in height may be required for construction of the proposed subterranean level, including foundation excavations. The excavations are expected to expose artificial fill and alluvial soils, which are suitable for vertical excavations up to 5 feet in height where loose soils or caving sands are not present, and where not surcharged by adjacent traffic or structures.

7.15.2 Vertical excavations greater than 5 feet or where surcharged by existing structures will require sloping or shoring measures in order to provide a stable excavation. Where sufficient space is available, temporary unsurcharged embankments could be sloped back at a uniform 1:1 slope gradient or flatter up to maximum height of 10 feet. A uniform slope does not have a vertical portion. Where space is limited, shoring measures will be required. *Shoring* data is provided in Section 7.16 of this report.

7.15.3 Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Geocon personnel should inspect the soils exposed in the cut slopes during excavation so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

7.16 Shoring – Soldier Pile Design and Installation

7.16.1 The following information on the design and installation of shoring is preliminary. Review of the final shoring plans and specifications should be made by this office prior to bidding or negotiating with a shoring contractor.

7.16.2 One method of shoring would consist of steel soldier piles, placed in drilled holes and backfilled with concrete. The steel soldier piles may also be installed utilizing high frequency vibration. Where maximum excavation heights are less than 12 feet the soldier piles are typically designed as cantilevers. Where excavations exceed 12 feet or are surcharged, soldier piles may require lateral bracing utilizing drilled tie-back anchors or raker braces to maintain an economical steel beam size and prevent excessive deflection. The size of the steel beam, the need for lateral bracing, and the acceptable shoring deflection should be determined by the project shoring engineer.

7.16.3 The design embedment of the shoring pile toes must be maintained during excavation activities. The toes of the perimeter shoring piles should be deepened to take into account any required excavations necessary for grading activities, foundations, and/or adjacent drainage systems.

7.16.4 Drilled cast-in-place soldier piles should be placed no closer than 3 diameters on center. The minimum diameter of the piles is 18 inches. Structural concrete should be used for the soldier piles below the excavation; lean-mix concrete may be employed above that level. As an alternative, lean-mix concrete may be used throughout the pile where the reinforcing consists of a wideflange section. The slurry must be of sufficient strength to impart the lateral bearing pressure developed by the wideflange section to the soil. For design purposes, an allowable passive value for the soils below the bottom plane of excavation may be assumed to be 260 psf per foot where in contact with alluvial soils. Where piles are installed by vibration techniques, the passive pressure may be assumed to mobilize across a width equal to the two times the dimension of the beam flange. The allowable passive value may be doubled for isolated piles, spaced a minimum of twice the pile diameter. To develop the full lateral value, provisions should be implemented to assure firm contact between the soldier piles and the undisturbed alluvium.

7.16.5 Casing will likely be required since some caving may occur in the granular soils, and the contractor should have casing available prior to commencement of drilling activities. When casing is used, extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than 5 feet. As an alternative, piles may be vibrated into place; however, there is always a risk that excessive vibrations in sandy soils could induce settlements and distress to adjacent offsite improvements. Continuous observation of the drilling and pouring of the piles by the Geotechnical Engineer (a representative of Geocon West, Inc.), is required.

7.16.6 If a vibratory method of solider pile installation is utilized, predrilling may be performed prior to installation of the steel beams. If predrilling is performed, it is recommended that the bore diameter be at least 2 inches smaller than the largest dimension of the pile to prevent excessive loss in the frictional component of the pile capacity. Predrilling should not be conducted below the proposed excavation bottom.

7.16.7 If a vibratory method is utilized, the owner should be aware of the potential risks associated with vibratory efforts, which typically involve inducing settlement within the vicinity of the pile which could result in a potential for damage to existing improvements in the area.

7.16.8 The level of vibration that results from the installation of the piles should not exceed a threshold where occupants of nearby structures are disturbed, despite higher vibration tolerances that a building may endure without deformation or damage. The main parameter used for vibration assessment is peak particle velocity in units of inch per second (in/sec). The acceptable range of peak particle velocity should be evaluated based on the age and condition of adjacent structures, as well as the tolerance of human response to vibration.

7.16.9 Based on Table 19 of the *Transportation and Construction Induced Vibration Guidance Manual* (Caltrans 2013), a continuous source of vibrations (ex. vibratory pile driving) which generates a maximum peak particle velocity of 0.5 in/sec is considered tolerable for modern industrial/commercial buildings and new residential structures. The Client should be aware that a lower value may be necessary if older or fragile structures are in the immediate vicinity of the site.

7.16.10 Vibrations should be monitored and record with seismographs during pile installation to detect the magnitude of vibration and oscillation experienced by adjacent structures. If the vibrations exceed the acceptable range during installation, the shoring contractor should modify the installation procedure to reduce the values to within the acceptable range. Vibration monitoring is not the responsibility of the Geotechnical Engineer. Geocon does not practice in the field of vibration monitoring. If construction techniques will be implemented, it is recommended that qualified consultant be retained to provide site specific recommendations for vibration thresholds and monitoring.

7.16.11 Geocon does not practice in the field of vibration monitoring. If construction techniques will be implemented, it is recommended that qualified consultant be retained to provide site specific recommendations for vibration thresholds and monitoring.

7.16.12 The frictional resistance between the soldier piles and retained soil may be used to resist the vertical component of the load. The coefficient of friction may be taken as 0.40 based on uniform contact between the steel beam and lean-mix concrete and alluvium. The portion of soldier piles below the plane of excavation may also be employed to resist the downward loads. The downward capacity may be determined using a frictional resistance of 800 psf.

7.16.13 Groundwater was encountered during exploration and the contractor should be prepared for groundwater during pile installation should the need arise. Piles placed below the water level require the use of a tremie to place the concrete into the bottom of the hole. A tremie should consist of a rigid, water-tight tube having a diameter of not less than 6 inches with a hopper at the top. The tube should be equipped with a device that will close the discharge end and prevent water from entering the tube while it is being charged with concrete. The tremie should be supported so as to permit free movement of the discharge end over the entire top surface of the work and to permit rapid lowering when necessary to retard or stop the flow of concrete. The discharge end should be closed at the start of the work to prevent water entering the tube and should be entirely sealed at all times, except when the concrete is being placed. The tremie tube should be kept full of concrete. The flow should be continuous until the work is completed and the resulting concrete seal should be monolithic and homogeneous. The tip of the tremie tube should always be kept about 5 feet below the surface of the concrete and definite steps and safeguards should be taken to insure that the tip of the tremie tube is never raised above the surface of the concrete.

7.16.14 A special concrete mix should be used for concrete to be placed below water. The design should provide for concrete with an unconfined compressive strength psi of 1,000 pounds per square inch (psi) over the initial job specification. An admixture that reduces the problem of segregation of paste/aggregates and dilution of paste should be included. The slump should be commensurate to any research report for the admixture, provided that it should also be the minimum for a reasonable consistency for placing when water is present.

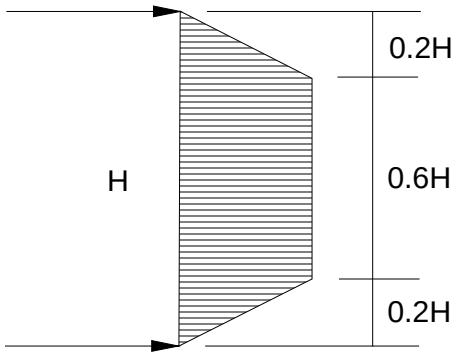
7.16.15 Due to the nature of the site soils, it is expected that continuous lagging between soldier piles will be required. However, it is recommended that the exposed soils be observed by the Geotechnical Engineer (a representative of Geocon West, Inc.), to verify the presence of any cohesive soils and the areas where lagging may be omitted.

7.16.16 The time between lagging excavation and lagging placement should be as short as possible. Soldier piles should be designed for the full-anticipated pressures. Due to arching in the soils, the pressure on the lagging will be less. It is recommended that the lagging be designed for the full design pressure but be limited to a maximum of 400 psf.

7.16.17 For the design of shoring, it is recommended that an equivalent fluid pressure based on the following table, be utilized for design. A diagram depicting the trapezoidal pressure distribution of lateral earth pressure is provided below the table.

HEIGHT OF SHORING (FEET)	**EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot) (ACTIVE PRESSURE)**	**EQUIVALENT FLUID PRESSURE (Pounds Per Square Foot per Foot) Trapezoidal (Where H is the height of the shoring in feet)**
Up to 30	25	16H
31-40	30	19H

Trapezoidal Distribution of Pressure



7.16.18 It is very important to note that active pressures can only be achieved when movement in the soil (earth wall) occurs. If movement in the soil is not acceptable, such as adjacent to an existing structure, or the pile is restrained from movement by bracing or a tie back anchor, an at-rest pressure of 50 pcf should be considered for design purposes.

7.16.19 Where a combination of sloped embankment and shoring is utilized, the pressure will be greater and must be determined for each combination. Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic, or adjacent structures and must be determined for each combination.

7.16.20 It is recommended that line-load surcharges from adjacent wall footings, use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.20 \times \left(\frac{z}{H}\right)}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.28 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

where x is the distance from the face of the excavation or wall to the vertical line-load, H is the distance from the bottom of the footing to the bottom of excavation or wall, z is the depth at which the horizontal pressure is desired, Q_L is the vertical line-load and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.16.21 It is recommended that vertical point-loads, from construction equipment outriggers or adjacent building columns use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.28 \times \left(\frac{z}{H}\right)^2}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.77 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)^2}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

then

$$\sigma'_H(z) = \sigma_H(z) cos^2(1.1\theta)$$

where x is the distance from the face of the excavation/wall to the vertical point-load, H is distance from the outrigger/bottom of column footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, Q_P is the vertical point-load, $\sigma_H(z)$ is the horizontal pressure at depth z, θ is the angle between a line perpendicular to the excavation/wall and a line from the point-load to location on the excavation/wall where the surcharge is being evaluated, and $\sigma_H(z)$ is the horizontal pressure at depth z.

7.16.22 In addition to the recommended earth pressure, the upper 10 feet of the shoring adjacent to the street or driveway areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the shoring due to normal street traffic. If the traffic is kept back at least 10 feet from the shoring, the traffic surcharge may be neglected.

7.16.23 It is difficult to accurately predict the amount of deflection of a shored embankment. It should be realized that some deflection will occur. It is recommended that the deflection be minimized to prevent damage to existing structures and adjacent improvements. Where public right-of-ways are present or adjacent offsite structures do not surcharge the shoring excavation, the shoring deflection should be limited to less than 1 inch at the top of the shored embankment. Where offsite structures are within the shoring surcharge area it is recommended that the beam deflection be limited to less than ½ inch at the elevation of the adjacent offsite foundation, and no deflection at all if deflections will damage existing structures. The allowable deflection is dependent on many factors, such as the presence of structures and utilities near the top of the embankment, and will be assessed and designed by the project shoring engineer.

7.16.24 Because of the depth of the excavation, some means of monitoring the performance of the shoring system is suggested. The monitoring should consist of periodic surveying of the lateral and vertical locations of the tops of all soldier piles and the lateral movement along the entire lengths of selected soldier piles.

7.16.25 Due to the depth of the depth of the excavation and proximity to adjacent structures, it is suggested that prior to excavation the existing improvements be inspected to document the present condition. For documentation purposes, photographs should be taken of preconstruction distress conditions and level surveys of adjacent grade and pavement should be considered. During excavation activities, the adjacent structures and pavement should be periodically inspected for signs of distress. In the even that distress or settlement is noted, an investigation should be performed and corrective measures taken so that continued or worsened distress or settlement is mitigated. Documentation and monitoring of the offsite structures and improvements is not the responsibility of the geotechnical engineer.

7.17 Tie-Back Anchors

7.17.1 Tie-back anchors may be used to resist lateral loads. Friction anchors are recommended. For design purposes, it may be assumed that the active wedge adjacent to the shoring is defined by a plane drawn 35 degrees with the vertical through the bottom plane of the excavation. Friction anchors should extend a minimum of 20 feet beyond the potentially active wedge and to greater lengths if necessary to develop the desired capacities. The locations and depths of all offsite utilities should be thoroughly checked and incorporated into the drilling angle design for the tie-back anchors.

7.17.2 The capacities of the anchors should be determined by testing of the initial anchors as outlined in a following section. Only the frictional resistance developed beyond the active wedge would be effective in resisting lateral loads. Anchors should be placed at least 6 feet on center to be considered isolated. Based on the height of the proposed excavation, it is anticipated that two rows of anchors may be required. For preliminary design purposes, it is estimated that drilled friction anchors constructed without utilizing post-grouting techniques will develop average skin frictions as follows:

- 10 feet below the top of the excavation – 1,400 pounds per square foot
- 20 feet below the top of the excavation – 1,800 pounds per square foot

7.17.3 Depending on the techniques utilized, and the experience of the contractor performing the installation, a maximum allowable friction capacity of 5 kips per linear foot for post-grouted anchors (for a 20-foot length beyond the active wedge) may be assumed for design purposes. Only the frictional resistance developed beyond the active wedge should be utilized in resisting lateral loads.

7.18 Anchor Installation

7.18.1 Tied-back anchors are typically installed between 20 and 40 degrees below the horizontal; however, occasionally alternative angles are necessary to avoid existing improvements and utilities. The locations and depths of all offsite utilities should be thoroughly checked prior to design and installation of the tie-back anchors. Caving of the anchor shafts, particularly within sand and gravel deposits or seepage zones, should be anticipated during installation and provisions should be implemented in order to minimize such caving. It is suggested that hollow-stem auger drilling equipment be used to install the anchors. The anchor shafts should be filled with concrete by pumping from the tip out, and the concrete should extend from the tip of the anchor to the active wedge. In order to minimize the chances of caving, it is recommended that the portion of the anchor shaft within the active wedge be backfilled with sand before testing the anchor. This portion of the shaft should be filled tightly and flush with the face of the excavation. The sand backfill should be placed by pumping; the sand may contain a small amount of cement to facilitate pumping.

7.19 Anchor Testing

7.19.1 All of the anchors should be tested to at least 150 percent of design load. The total deflection during this test should not exceed 12 inches. The rate of creep under the 150 percent test load should not exceed 0.1 inch over a 15-minute period in order for the anchor to be approved for the design loading.

7.19.2 At least ten percent of the anchors should be selected for "quick" 200 percent tests and three additional anchors should be selected for 24-hour 200 percent tests. The purpose of the 200 percent tests is to verify the friction value assumed in design. The anchors should be tested to develop twice the assumed friction value. These tests should be performed prior to installation of additional tiebacks. Where satisfactory tests are not achieved on the initial anchors, the anchor diameter and/or length should be increased until satisfactory test results are obtained.

7.19.3 The total deflection during the 24-hour 200 percent test should not exceed 12 inches. During the 24-hour tests, the anchor deflection should not exceed 0.75 inches measured after the 200 percent test load is applied.

7.19.4 For the "quick" 200 percent tests, the 200 percent test load should be maintained for 30 minutes. The total deflection of the anchor during the 200 percent quick tests should not exceed 12 inches; the deflection after the 200 percent load has been applied should not exceed 0.25 inch during the 30-minute period.

7.19.5 After a satisfactory test, each anchor should be locked-off at the design load. This should be verified by rechecking the load in the anchor. The load should be within 10 percent of the design load. A representative of this firm should observe the installation and testing of the anchors.

7.20 Internal Bracing

7.20.1 Rakers may be utilized to brace the soldier piles in lieu of tieback anchors. The raker bracing could be supported laterally by temporary concrete footings (deadmen) or by the permanent, interior footings. For design of such temporary footings or deadmen, poured with the bearing surface normal to rakers inclined at 45 degrees, a bearing value of 2,500 psf in competent alluvial soil, provided the shallowest point of the footing is at least one foot below the lowest adjacent grade. The structural engineer should review the shoring plans to determine if raker footings conflict with the structural foundation system. The client should be aware that the utilization of rakers could significantly impact the construction schedule do to their intrusion into the construction site and potential interference with equipment.

7.21 Stormwater Infiltration

7.21.1 During the November 1, 2016 site exploration, boring B1 was excavated and utilized to perform percolation testing. The boring was advanced to the depth listed in the table below. A slotted casing was placed in the boring, and the annular space between the casing and excavation was filled with filter pack. The boring was then filled with water to pre-saturate the soils. On November 2, 2016, the casing was refilled with water and percolation test readings were performed after repeated flooding of the cased excavation. Based on the test results, the average infiltration rate (adjusted percolation rate) for the earth materials encountered is provided in the following table. Additional correction factors may be required and should be applied by the engineer in responsible charge of the design of the stormwater infiltration system and based on applicable guidelines.

Boring	Infiltration Depth (ft.)	Average Infiltration Rate (in / hour)
B1	20-40	0.05

7.21.2 The results of the percolation testing indicate that the infiltration rate is slow and is likely the result of very dense and fine-grained soils that are present, which are typically not conducive to rapid infiltration.

7.21.3 Based on the percolation test result, a stormwater infiltration system is not recommended for this project. It is suggested that stormwater be retained, filtered and discharged in accordance with the requirements of the local governing agency.

7.22 Surface Drainage

7.22.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.

7.22.2 All site drainage should be collected and controlled in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2016 CBC 1804.4 or other applicable standards. In addition, drainage should not be allowed to flow uncontrolled over any descending slope. Discharge from downspouts, roof drains and scuppers are not recommended onto unprotected soils within five feet of the building perimeter. Planters which are located adjacent to foundations should be sealed to prevent moisture intrusion into the soils providing foundation support. Landscape irrigation is not recommended within 5 feet of the building perimeter footings except when enclosed in protected planters.

7.22.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

7.22.4 Landscaping planters immediately adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Either a subdrain, which collects excess irrigation water and transmits it to drainage structures, or an impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, it is recommended that consideration be given to providing a cutoff wall along the edge of the pavement that extends at least 12 inches below the base material.

7.23 Plan Review

7.23.1 Grading, shoring, and foundation plans should be reviewed by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.

2. This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

4. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

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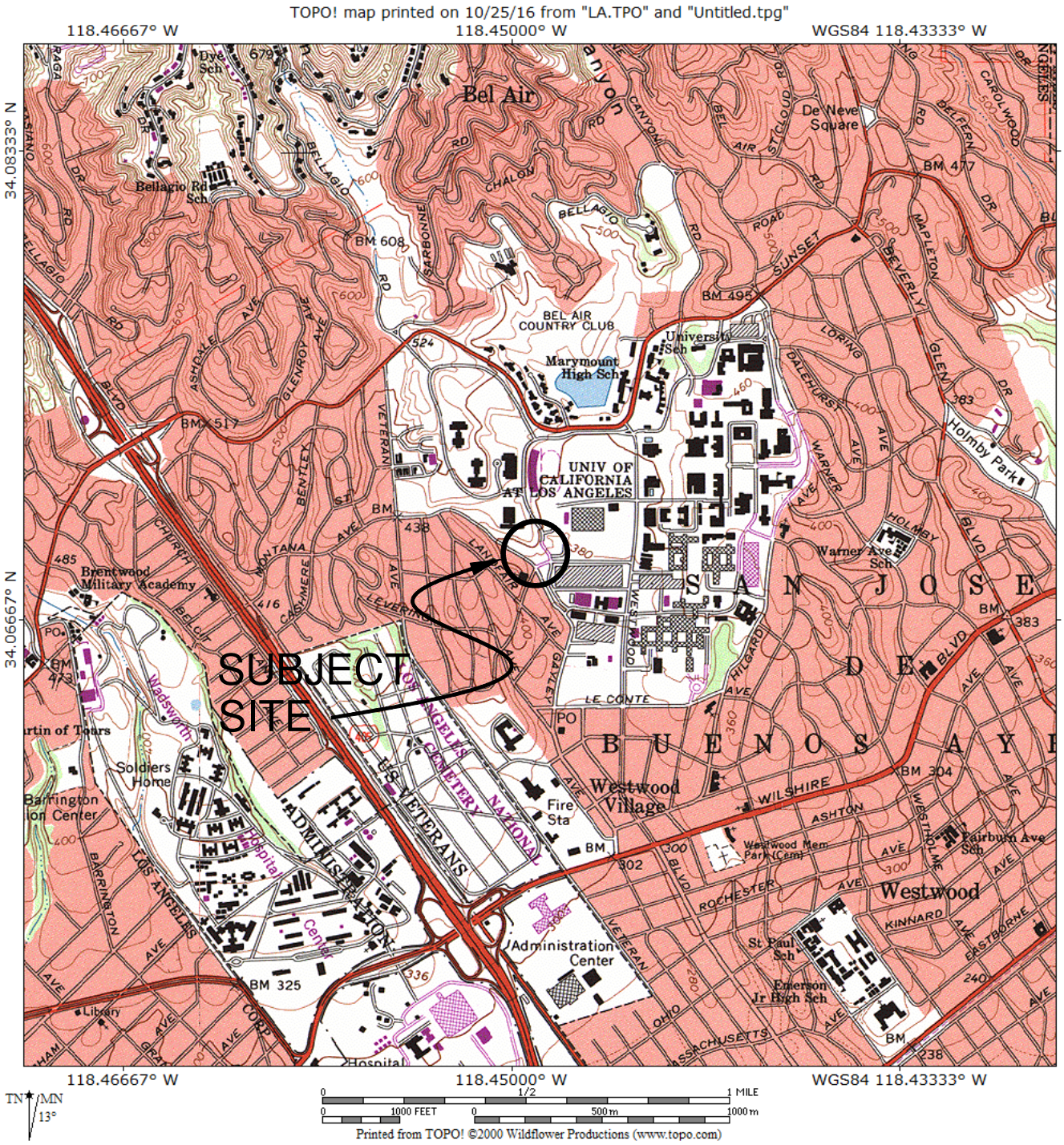

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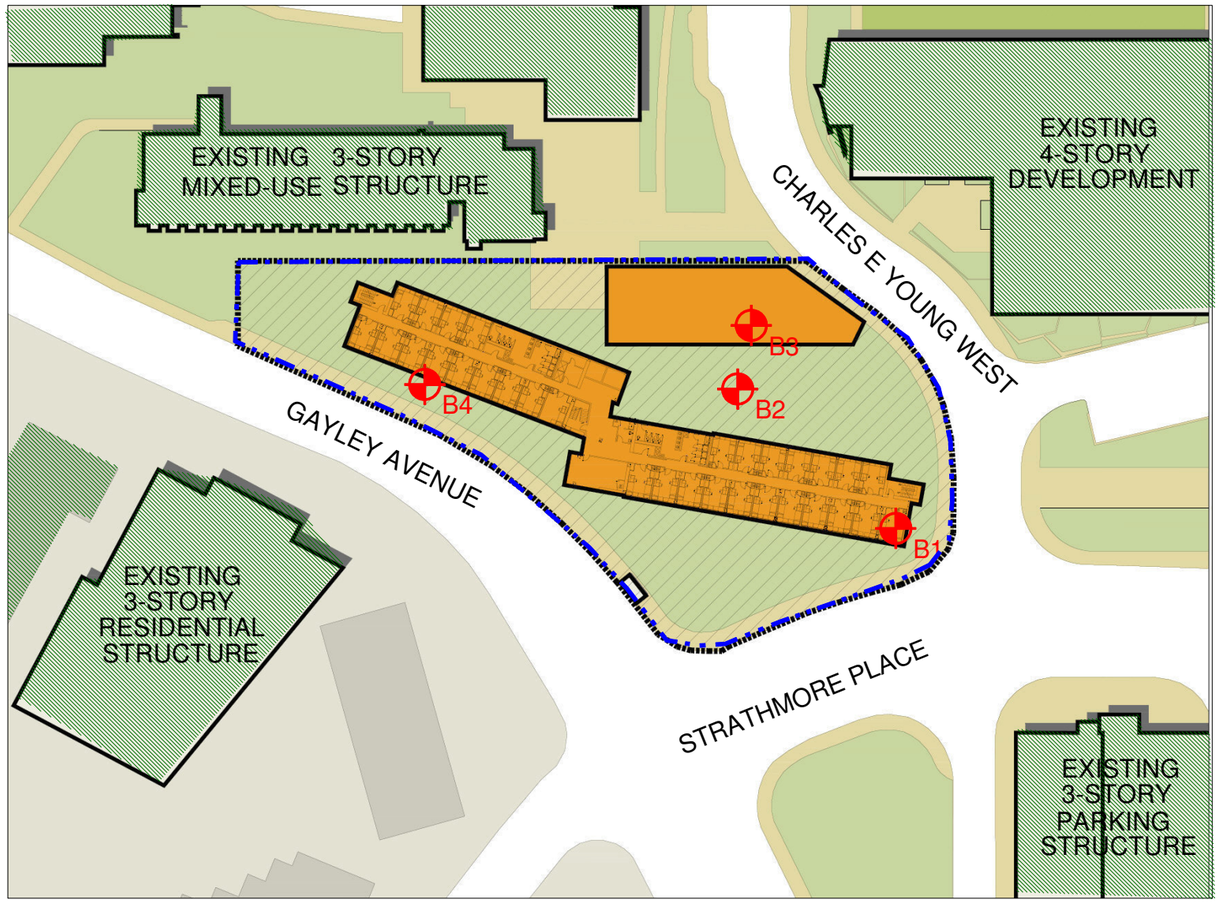
DRAFTED BY: RA	CHECKED BY: SFK

VICINITY MAP

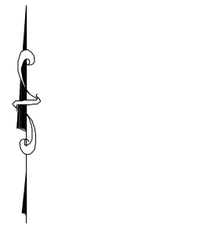
UCLA - BRADLEY HALL
GAYLEY AVE AND STRATHMORE PL
LOS ANGELES, CALIFORNIA

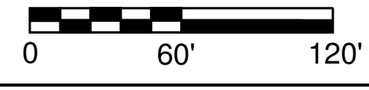
DEC 2016	PROJECT NO. A9060-06-08	FIG. 1



LEGEND

- B4 — Boring Location and Number
- Existing Property Line
- Approximate Location of Proposed Structure
- Approximate Location of Offsite Structures





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SITE PLAN

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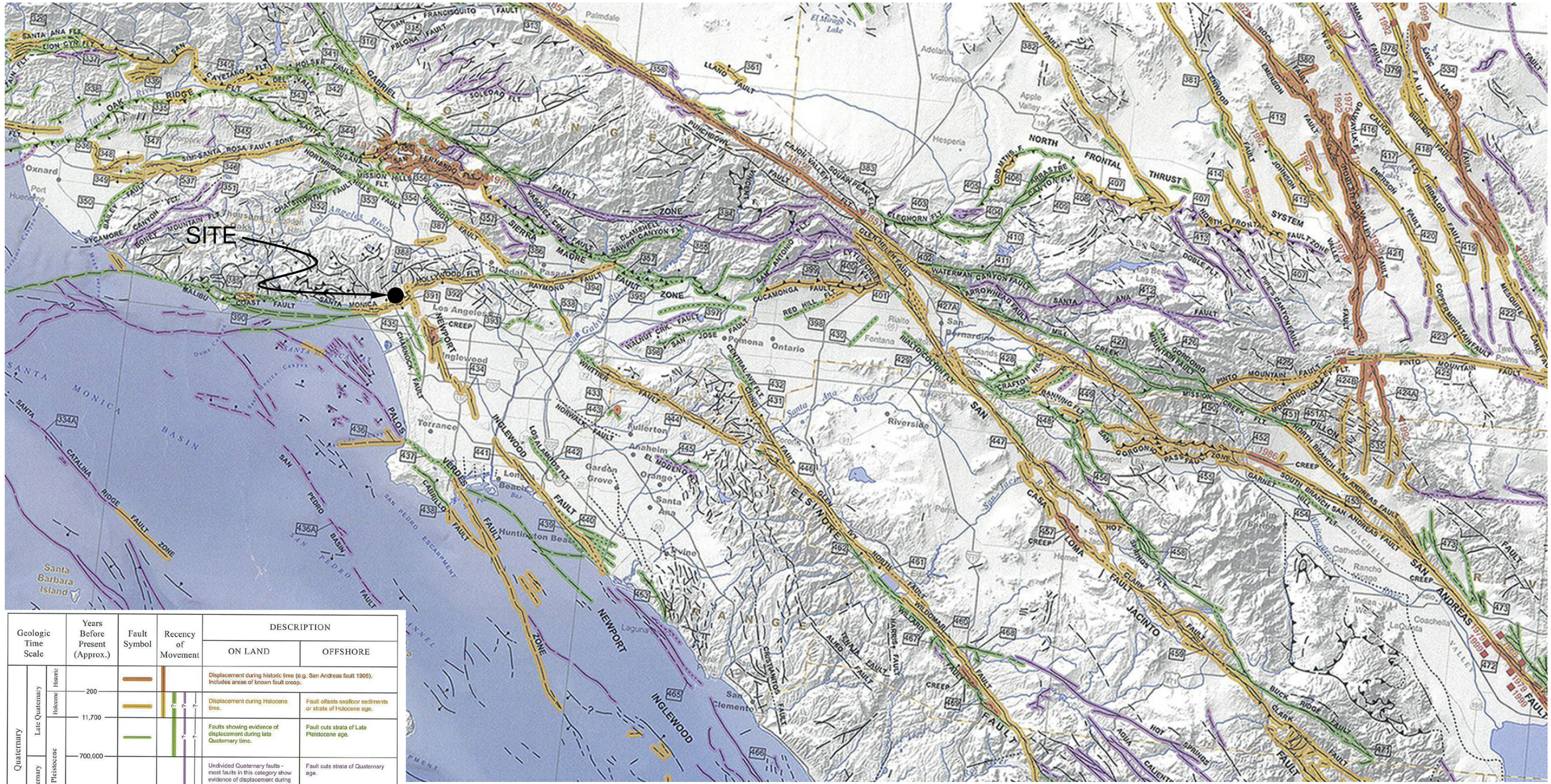
DEC 2016	PROJECT NO. A9060-06-08	FIG. 2

Reference: Jennings, C.W. and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey Geologic Data Map No. 6.



Geologic Time Scale			Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION	
						ON LAND	OFFSHORE
Quaternary	Late Quaternary	Historic				Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
		Holocene	200			Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
			11,700			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
	Early Quaternary	Pleistocene	700,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary			1,600,000*			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.
			4.5 billion (Age of Earth)				

* Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.6 Ma criterion.

0 12 24 Miles

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REGIONAL FAULT MAP

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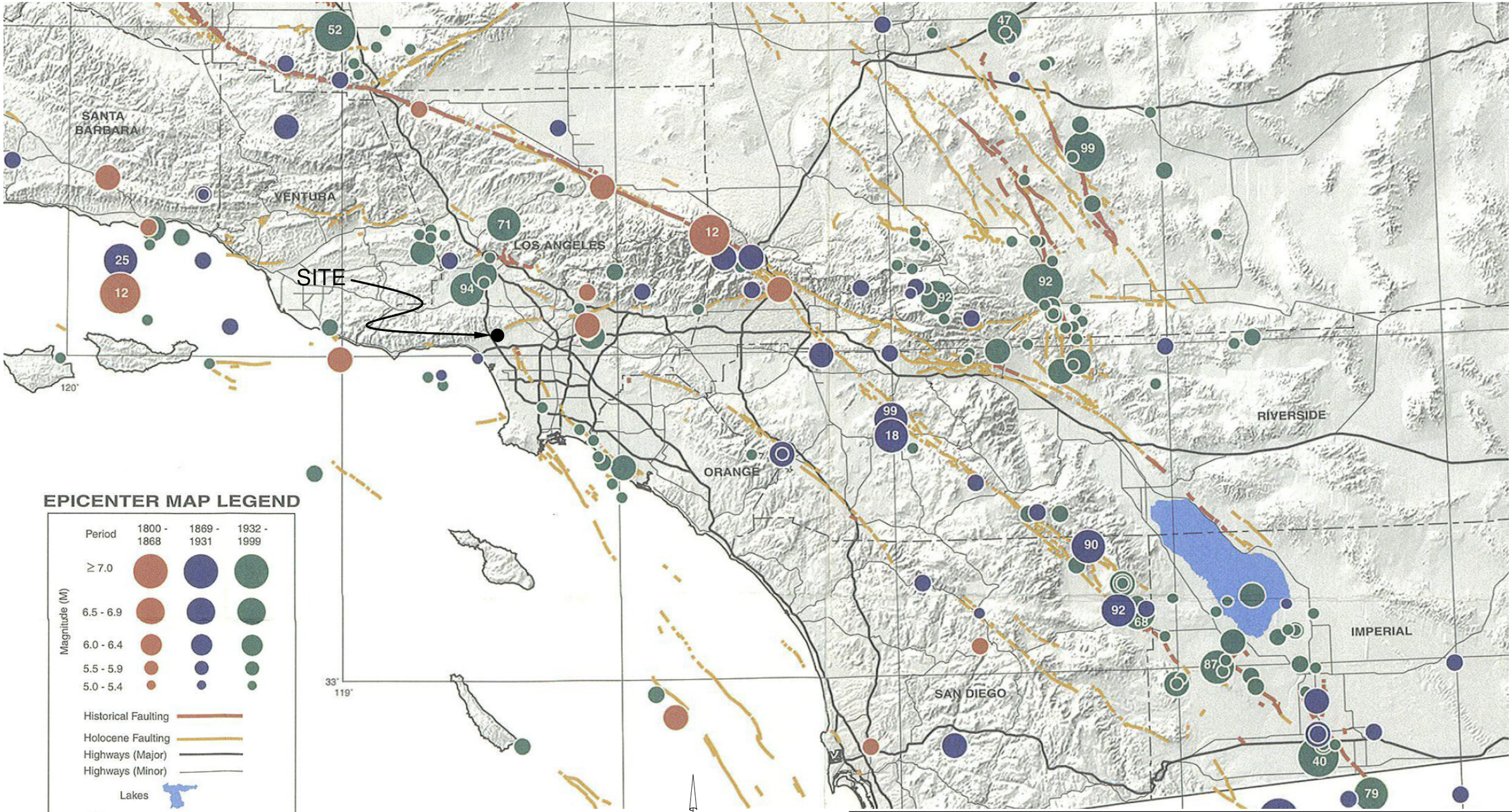

EPICENTER MAP LEGEND

Period	1800 - 1868	1869 - 1931	1932 - 1999
≥ 7.0			
6.5 - 6.9			
6.0 - 6.4			
5.5 - 5.9			
5.0 - 5.4			

Magnitude (M)

Historical Faulting

Holocene Faulting

Highways (Major)

Highways (Minor)

Lakes

65 Last two digits of M ≥ 6.5 earthquake year

N

0 20 40 Miles

Reference: Toppozada, T., Branum, D., Petersen, M., Hallstrom, C., Cramer, C., and Reichle, M., 2000, Epicenters and Areas Damaged by M≥5 California Earthquakes, 1800 - 1999, California Geological Survey, Map Sheet 49.

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REGIONAL SEISMICITY MAP

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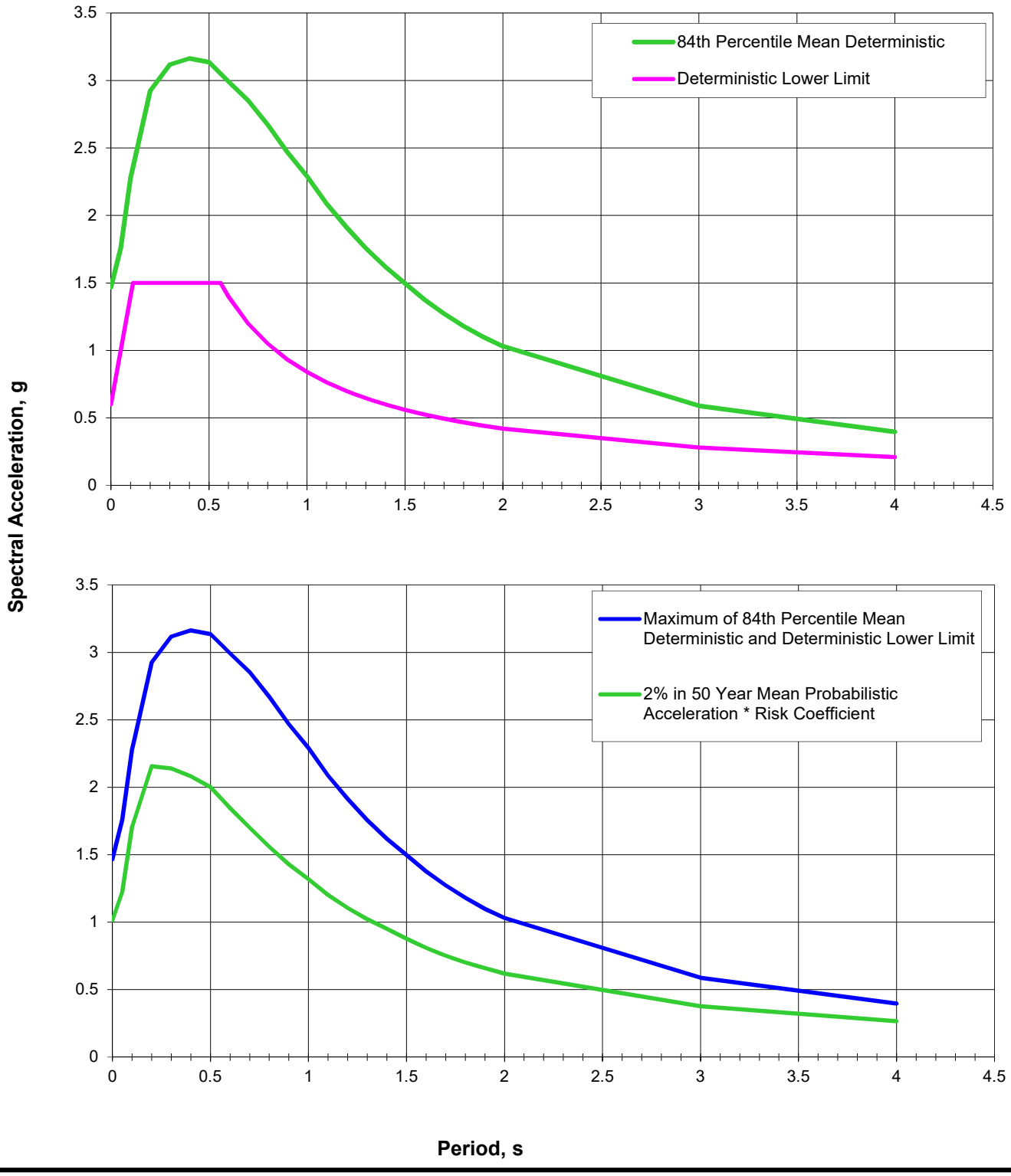

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DESIGN RESPONSE SPECTRUM

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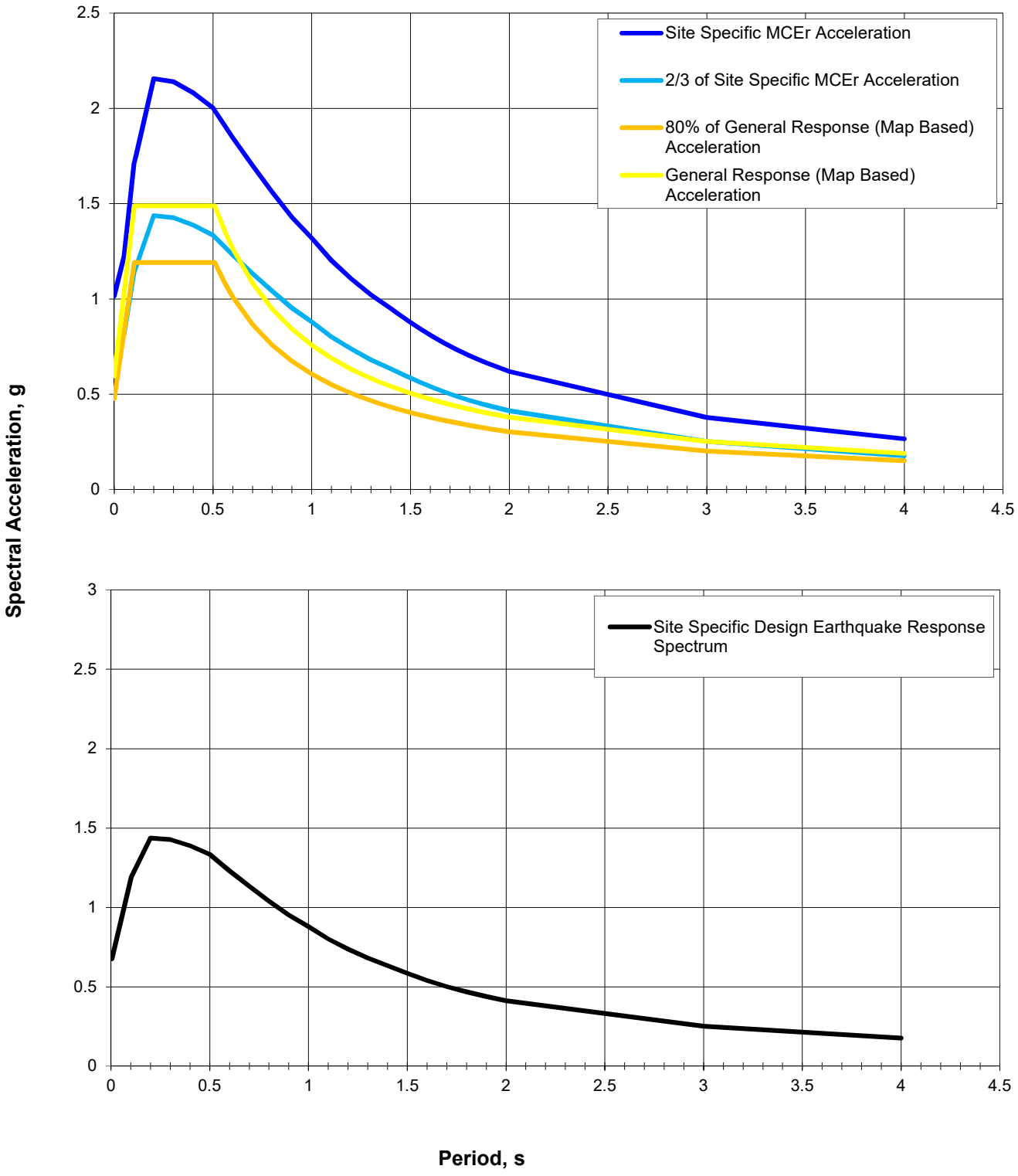
DEC 2016	PROJECT NO. A9060-06-08	FIG. 5



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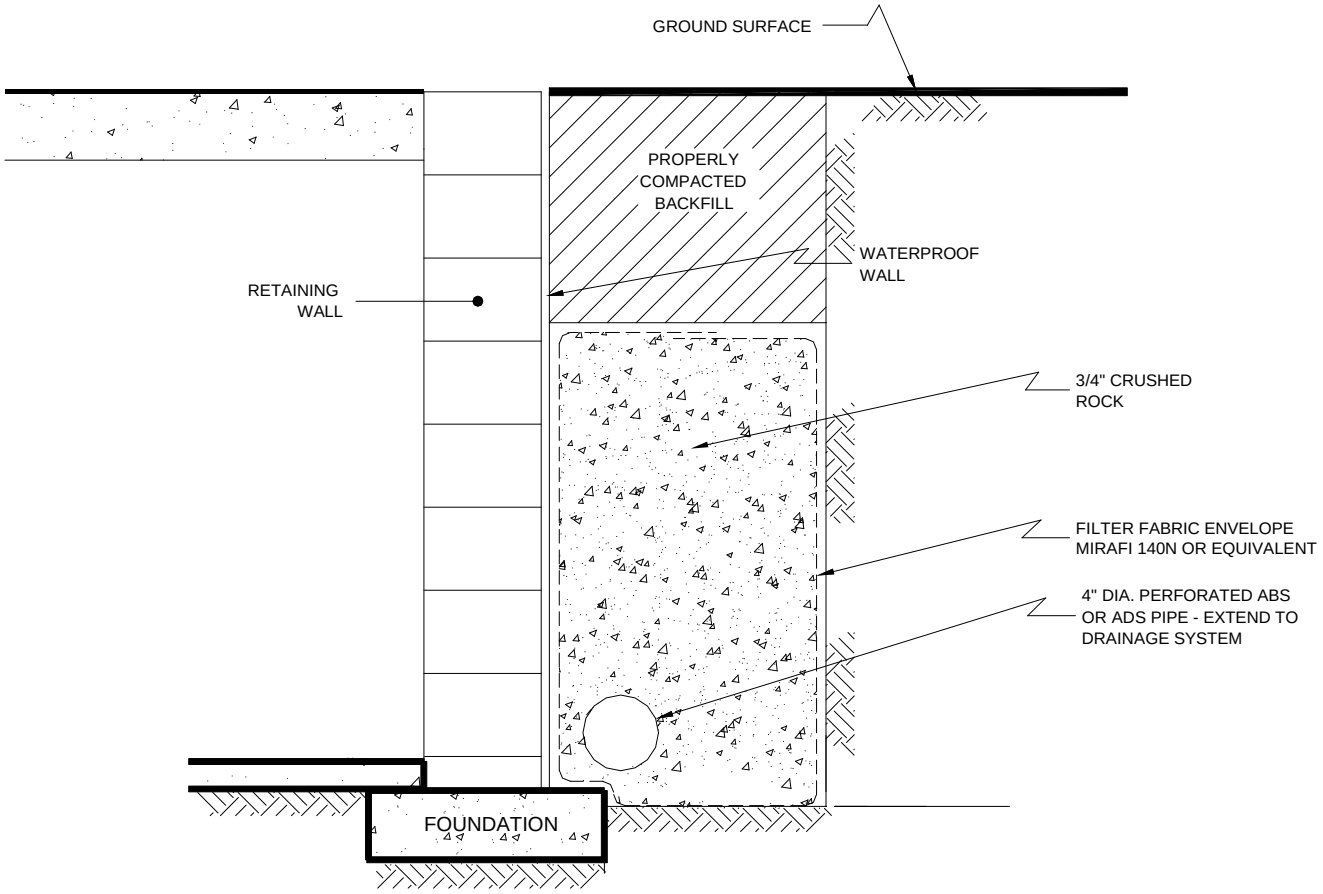

NO SCALE

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RETAINING WALL DRAIN DETAIL

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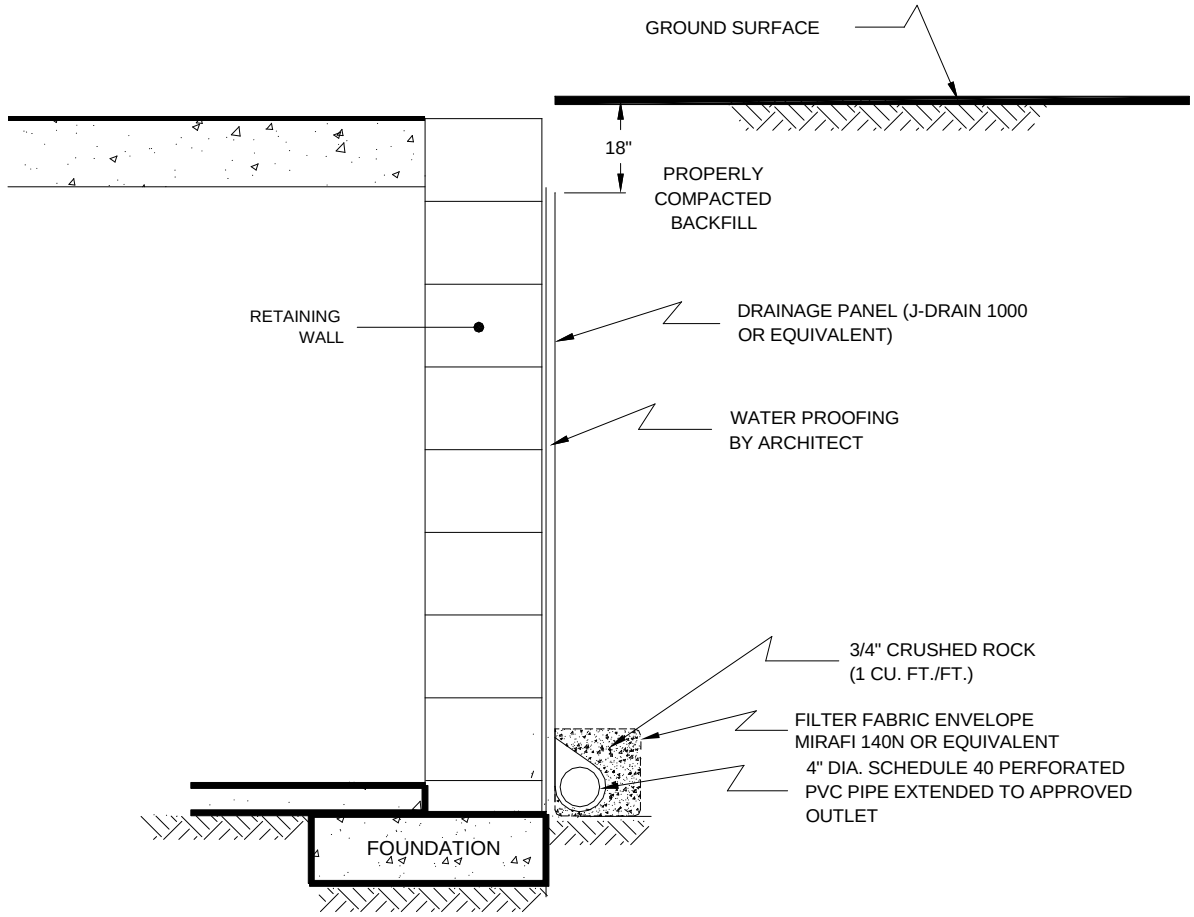
DEC. 2016	PROJECT NO. A9060-06-08	FIG. 7



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RETAINING WALL DRAIN DETAIL

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DEC. 2016	PROJECT NO. A9060-06-08	FIG. 8

Ground Motion Spectral Accelerations, (g)

Spectral Period (seconds)	Site Specific Design Response Spectrum (5% Damping)
PGA	0.677
0.100	1.177
0.102	1.191
0.200	1.437
0.300	1.427
0.400	1.388
0.500	1.335
0.509	1.325
0.560	1.272
0.600	1.231
0.700	1.134
0.800	1.041
0.900	0.953
1.000	0.880
1.100	0.801
1.200	0.737
1.300	0.681
1.400	0.634
1.500	0.585
1.600	0.540
1.700	0.502
1.800	0.468
1.900	0.439
2.000	0.413
3.000	0.252
4.000	0.177

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DESIGN RESPONSE SPECTRUM

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DEC 2016	PROJECT NO. A9060-06-08	Table 1

APPENDIX A

APPENDIX A

FIELD INVESTIGATION

The site was explored on November 1 and 2, 2016, by excavating four 8-inch-diameter borings utilizing a limited access hollow-stem auger drilling machine. The borings were excavated to depths of approximately 40½ and 60½ feet below the existing ground surface. Representative and relatively undisturbed samples were obtained by driving a 3-inch O. D., California Modified Sampler into the "undisturbed" soil mass with blows 140-pound auto-hammer falling 30 inches. The California Modified Sampler was equipped with 1-inch high by 2 3/8-inch diameter brass sampler rings to facilitate soil removal and testing. Bulk samples were also obtained.

The soil conditions encountered in the borings were visually examined, classified and logged in general accordance with the Unified Soil Classification System (USCS). Logs of the borings are presented on Figures A1 through A4. The logs depict the soil and geologic conditions encountered and the depth at which samples were obtained. The locations of the borings are shown on Figure 2.

PROJECT NO. A9060-06-08

BORING 1

ELEV. (MSL.) **372.0** DATE COMPLETED **11/1/16**

EQUIPMENT **LIMITED ACCESS RIG** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**GRASS**			
					ARTIFICIAL FILL			
2					Sand, poorly graded, medium dense, slightly moist, dark yellowish brown to brown, fine- to medium-grained, some coarse-grained, some fine gravel.			
4								
6	B1@5' BULK 5-10'					33	103.9	15.9
					ALLUVIUM			
8	B1@8'			ML	Sandy Silt, hard, slightly moist, dark brown to reddish brown, fine-grained, some fine gravel, oxidation mottling.	72	119.5	7.4
10					- gravel (to 1")			
	B1@11'				Silty Sand, medium dense, slightly moist, reddish brown, fine-grained, some fine gravel.	46	118.7	9.3
12					- dense, dark brown, fine- to coarse-grained			
14	B1@14'					57	126.6	4.5
					- increase in silt content			
16								
	B1@17'				- medium dense	46	115.5	13.2
18								
					- very dense, some cobbles, moderately weathered			
20	B1@20'			SM		50 (6")	120.4	11.2
22								
24					- dark reddish brown, trace clay, slate gravel (to 1.5")			
	B1@25'					50 (5")	129.1	11.0
26								
28								
					- medium-grained, decrease in fine-grained			

A9060-06-08 BORING LOGS.GPJ

Figure A1,
Log of Boring 1, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. A9060-06-08

BORING 1

ELEV. (MSL.) **372.0** DATE COMPLETED **11/1/16**

EQUIPMENT **LIMITED ACCESS RIG** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B1@30'					50 (6")	123.3	10.6
32								
34					- reddish brown			
36	B1@35'		▼	SM		50 (5")	118.3	14.9
38								
40	B1@40'					50 (4")	126.5	10.0

Total depth of boring: 40.5 feet
Fill to 6.5 feet.
Groundwater encountered at 37 feet.
Backfilled with soil cuttings and tamped.

*Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.

A9060-06-08 BORING LOGS.GPJ

Figure A1,
Log of Boring 1, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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BORING 2

ELEV. (MSL.) **396.0** DATE COMPLETED **11/1/16**

EQUIPMENT **LIMITED ACCESS RIG** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**GRASS**			
					ARTIFICIAL FILL			
2					Clayey Silt, firm, slightly moist, dark yellowish brown, some fine- to medium-grained sand, some gravel (to 1").			
					- decrease in gravel content			
4					**ALLUVIUM**			
	B2@5'				Sandy Silt, stiff, slightly moist, dark yellowish brown and grayish brown, some fine gravel.	24	124.0	10.6
6				ML				
8								
					- stiff, increase in sand content, gravel (to 1")			
10	B2@10'					32	118.3	13.8
					Silty Sand, medium dense, slightly moist, grayish brown and yellowish brown, fine- to medium-grained, some gravel, some roots (to 3").			
12								
14					- increase in silt content, dark brown			
	B2@15'					40	--	11.6
16	BULK 15-20'			SM				
18	B2@18'				- no recovery	--	--	--
					- some roots			
20								
	B2@21'				Sandy Silt, firm, slightly moist, grayish brown, fine- to medium-grained, some coarse-grained.	16	115.8	14.3
22				ML				
					Silty Sand, medium dense, slightly moist, dark yellowish brown to grayish brown, fine-grained, gravel (to 1").			
24	B2@24'					43	107.1	14.9
26				SM				
	B2@27'				- very dense, increase in fine gravel, trace clay	50 (6")	122.5	7.5
28								
				ML	Sandy Silt, hard, slightly moist, yellowish brown to reddish brown, some			

A9060-06-08 BORING LOGS.GPJ

Figure A2,
Log of Boring 2, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9060-06-08

BORING 2

ELEV. (MSL.) **396.0** DATE COMPLETED **11/1/16**

EQUIPMENT **LIMITED ACCESS RIG** BY: **RMA**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B2@30'			ML	fine- to medium-grained sand, trace fine gravel.	53	105.2	22.0
32					- gravel (to 2")			
34	B2@33'					50 (5")	123.5	12.2
36	B2@35'					43	117.8	13.8
38				SM	Silty Sand, very dense, slightly moist, yellowish brown, fine-grained, some subangular gravel (to 2").			
40	B2@40'					50 (6")	108.8	7.5

Total depth of boring: 40.5 feet
Fill to 4 feet.
No groundwater encountered.
Backfilled with soil cuttings and tamped.

*Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.

A9060-06-08 BORING LOGS.GPJ

Figure A2,
Log of Boring 2, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-08

BORING 3

ELEV. (MSL.) **400.0** DATE COMPLETED **11/2/16**

EQUIPMENT **LIMITED ACCESS RIG** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**GRASS**			
					ARTIFICIAL FILL Silt with Sand and Gravel, stiff, slightly moist, brown, very fine- to medium-grained, fine to coarse gravel.			
4								
6	B3@5'				- yellowish brown and reddish brown mottles, increase in sand and gravel content, very fine- to coarse-grained	33	119.2	15.2
8					Silt with Gravel, firm, moist, grayish brown and brown, fine to coarse gravel, some very fine- to coarse-grained sand.			
10	B3@10'					20	118.8	14.2
12								
14								
16	B3@15'				- increase in sand content	14	116.3	15.9
18								
20	B3@20'				- stiff, grayish brown with reddish brown mottles, decrease in sand content, some asphalt fragments	34	103.1	21.2
22								
24								
	B3@25'				- decrease in gravel content, trace wood fragments	22	118.8	15.4
26					**ALLUVIUM** Silty Sand, medium dense, moist, reddish brown and gray, fine- to medium-grained, trace coarse-grained, some fine to coarse gravel.			
28				SM				

A9060-06-08 BORING LOGS.GPJ

Figure A3,
Log of Boring 3, Page 1 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-08

BORING 3

ELEV. (MSL.) **400.0** DATE COMPLETED **11/2/16**

EQUIPMENT **LIMITED ACCESS RIG** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B3@30' BULK 30-35'					38	115.5	10.2
32								
34	B3@33'				- very dense	50 (3")	121.2	14.5
36	B3@36'				- increase in silt content	50 (4")	125.5	7.9
38				SM				
40	B3@39'				- abundant gravel	50 (6")	114.9	8.4
42	B3@42'					50 (5")	110.7	16.8
44								
46	B3@45'				Silt, hard, moist, reddish brown, trace fine- to medium-grained sand and fine gravel.	55	115.6	16.0
48				ML				
50	B3@50'				- increase in sand content	50 (4")	119.6	15.4
52								
54					Silty Sand, very dense, slightly moist, fine- to medium-grained, some fine to coarse gravel.			
56	B3@55'			SM		50 (6")	110.6	10.2
58								

A9060-06-08 BORING LOGS.GPJ

Figure A3,
Log of Boring 3, Page 2 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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GEOCON

PROJECT NO. A9060-06-08

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING 3** ELEV. (MSL.) **400.0** DATE COMPLETED **11/2/16** EQUIPMENT **LIMITED ACCESS RIG** BY: **SJB**	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
60	B3@60'			SP-SM	Sand with Silt, well-graded, very dense, moist, brown and reddish brown, fine- to coarse-grained.	50 (6")	114.3	14.5
					Total depth of boring: 60.5 feet Fill to 25 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

Figure A3,
Log of Boring 3, Page 3 of 3

A9060-06-08 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A9060-06-08

BORING 4

ELEV. (MSL.) **396.0** DATE COMPLETED **11/2/16**

EQUIPMENT **LIMITED ACCESS RIG** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0			**GRASS**			
			ARTIFICIAL FILL			
2			Sandy Silt, soft, moist, brown with dark gray mottles, fine- to medium-grained.			
			- plastic fabric layer			
4						
	B4@5'			5	--	--
6	BULK 5-10'		- filter fabric layer			
			Silt with Sand and Gravel, firm, moist, dark brown with yellowish brown, gray, and reddish brown mottles, fine- to coarse-grained, fine gravel, trace clay beds (3" thick).			
8	B4@8'			20	106.2	24.4
10			**ALLUVIUM**			
	B4@11'		Silty Sand, medium dense, moist, dark gray with reddish brown mottles, fine-grained, trace medium-grained, trace clay.	27	111.8	22.4
12		SM				
			- increase in fine to coarse gravel content			
14	B4@14'			45	110.6	17.1
		SP-SM	Sand with Silt, poorly graded, medium dense, moist, yellowish brown with grayish brown mottles, fine-grained, trace medium- to coarse-grained, trace fine gravel.			
16			- abundant fine gravel			
	B4@17'		Clayey Silt, stiff, slightly moist, brown with reddish brown mottles, some manganese staining.	28	103.5	22.1
18		ML				
			- increase in silt content, trace fine- to coarse-grained sand			
20	B4@20'			33	119.8	14.2
		ML	Silt with Sand and Gravel, stiff, moist, grayish brown with reddish brown mottles, fine- to coarse-grained, fine to coarse gravel, trace clay.			
22						
			Silt, hard, moist, brown with reddish brown mottles, some clay, trace fine-grained sand and fine to coarse gravel.			
24						
	B4@25'	ML		52	125.5	10.2
26						
28						
		SP	Sand, poorly graded, dense, moist, brown, fine-grained, trace medium- to coarse-grained, trace silt and fine to coarse gravel.			

A9060-06-08 BORING LOGS.GPJ

Figure A4,
Log of Boring 4, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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GEOCON

PROJECT NO. A9060-06-08

BORING 4

ELEV. (MSL.) **396.0** DATE COMPLETED **11/2/16**

EQUIPMENT **LIMITED ACCESS RIG** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B4@30'			SP	- sand beds (6"), poorly graded, dense, moist, brown, fine-grained, trace silt	54	112.7	9.0
32								
34								
36	B4@35'				- very dense	50 (3")	122.6	13.7
38				ML	Silt, hard, moist, brown, trace clay and fine to coarse gravel.			
40	B4@40'					50 (6")	125.0	9.9
42				SP-SM	Sand with Silt, poorly graded, very dense, slightly moist, brown, fine-grained.			
44								
46	B4@45'			ML	Sandy Silt, hard, wet, brown, fine- to medium-grained, trace coarse-grained, trace fine to coarse gravel, trace clay. - increase in sand content	50 (6")	127.1	9.5
48								
50	B4@50'					50 (6")	--	--

Total depth of boring: 50.5 feet
Fill to 10 feet.
Groundwater encountered at 30 feet.
Backfilled with soil cuttings and tamped.

*Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.

A9060-06-08 BORING LOGS.GPJ

Figure A4,
Log of Boring 4, Page 2 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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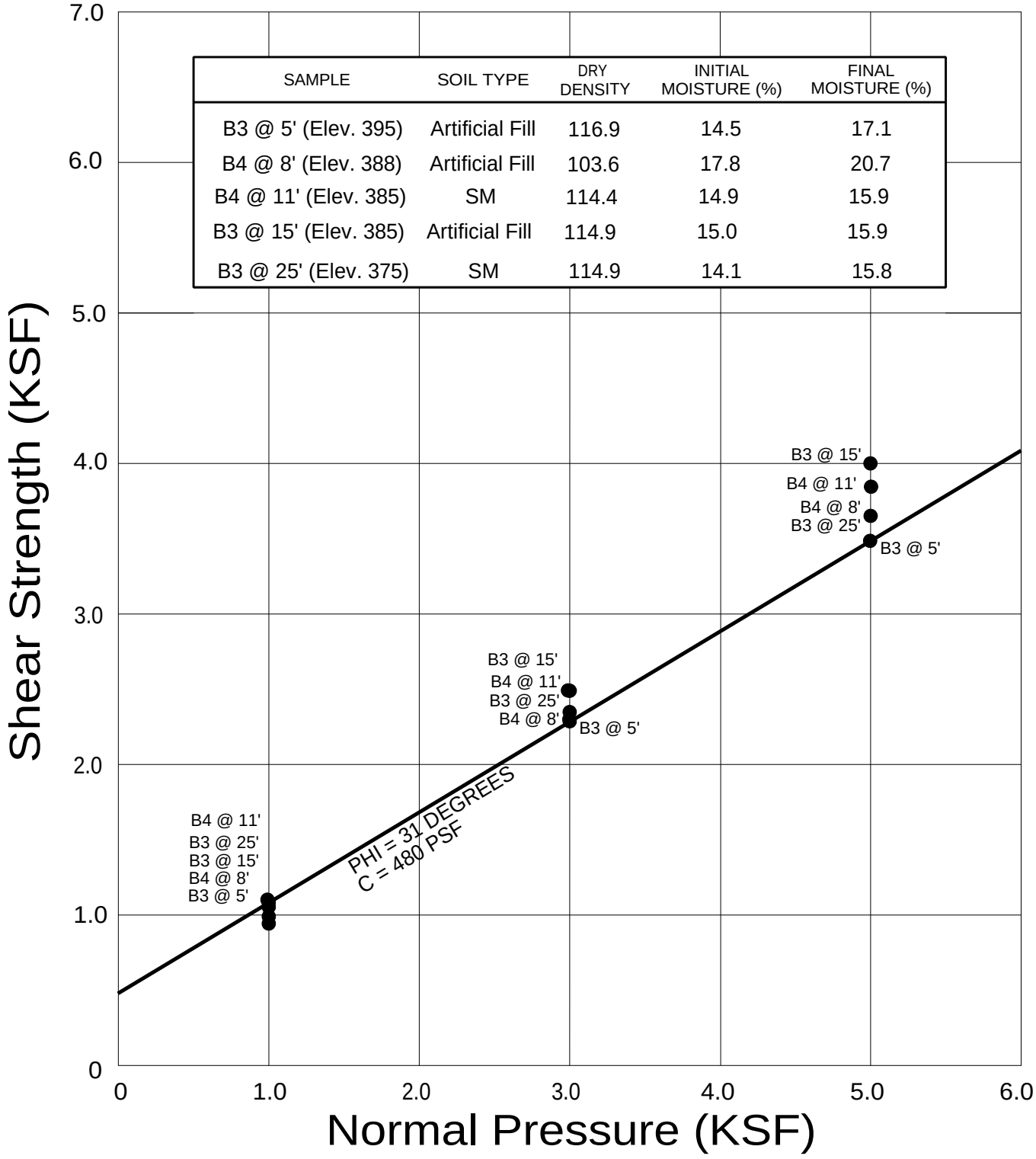
APPENDIX B

APPENDIX B

LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the "American Society for Testing and Materials (ASTM)", or other suggested procedures. Selected samples were tested for direct shear strength, consolidation and expansion characteristics, corrosivity, in-place dry density and moisture content. The results of the laboratory tests are summarized in Figures B1 through B7. The in-place dry density and moisture content of the samples tested are presented on the boring logs, Appendix A.

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B3 @ 5' (Elev. 395)	Artificial Fill	116.9	14.5	17.1
B4 @ 8' (Elev. 388)	Artificial Fill	103.6	17.8	20.7
B4 @ 11' (Elev. 385)	SM	114.4	14.9	15.9
B3 @ 15' (Elev. 385)	Artificial Fill	114.9	15.0	15.9
B3 @ 25' (Elev. 375)	SM	114.9	14.1	15.8



GEOCON WEST, INC.

ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

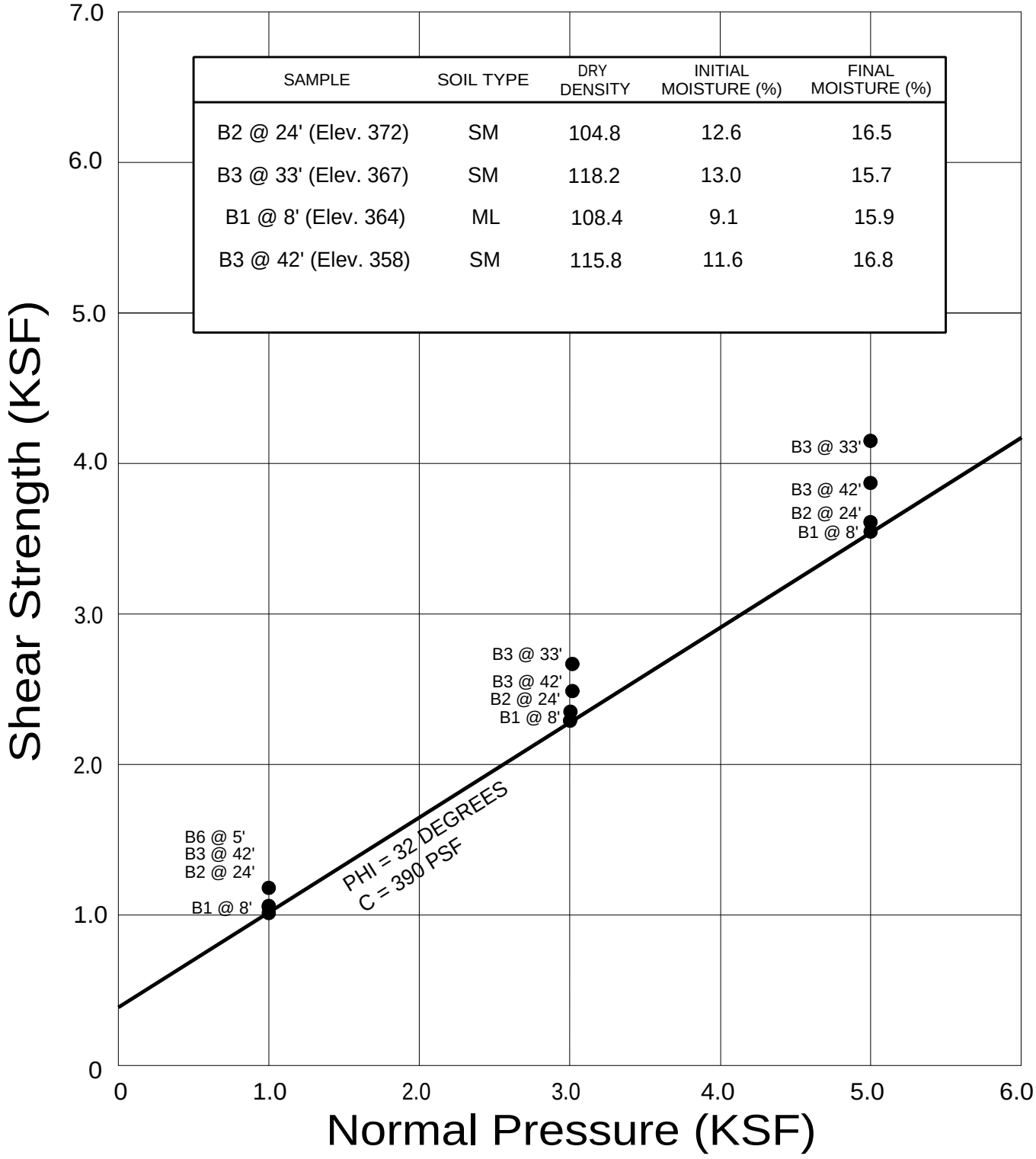
DRAFTED BY: JO | CHECKED BY: HHD

DIRECT SHEAR TEST RESULTS

UCLA - BRADLEY HALL
GAYLEY AVE AND STRATHMORE PL
LOS ANGELES, CALIFORNIA

DEC 2016 | PROJECT NO. A9060-06-08 | FIG. B1

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B2 @ 24' (Elev. 372)	SM	104.8	12.6	16.5
B3 @ 33' (Elev. 367)	SM	118.2	13.0	15.7
B1 @ 8' (Elev. 364)	ML	108.4	9.1	15.9
B3 @ 42' (Elev. 358)	SM	115.8	11.6	16.8



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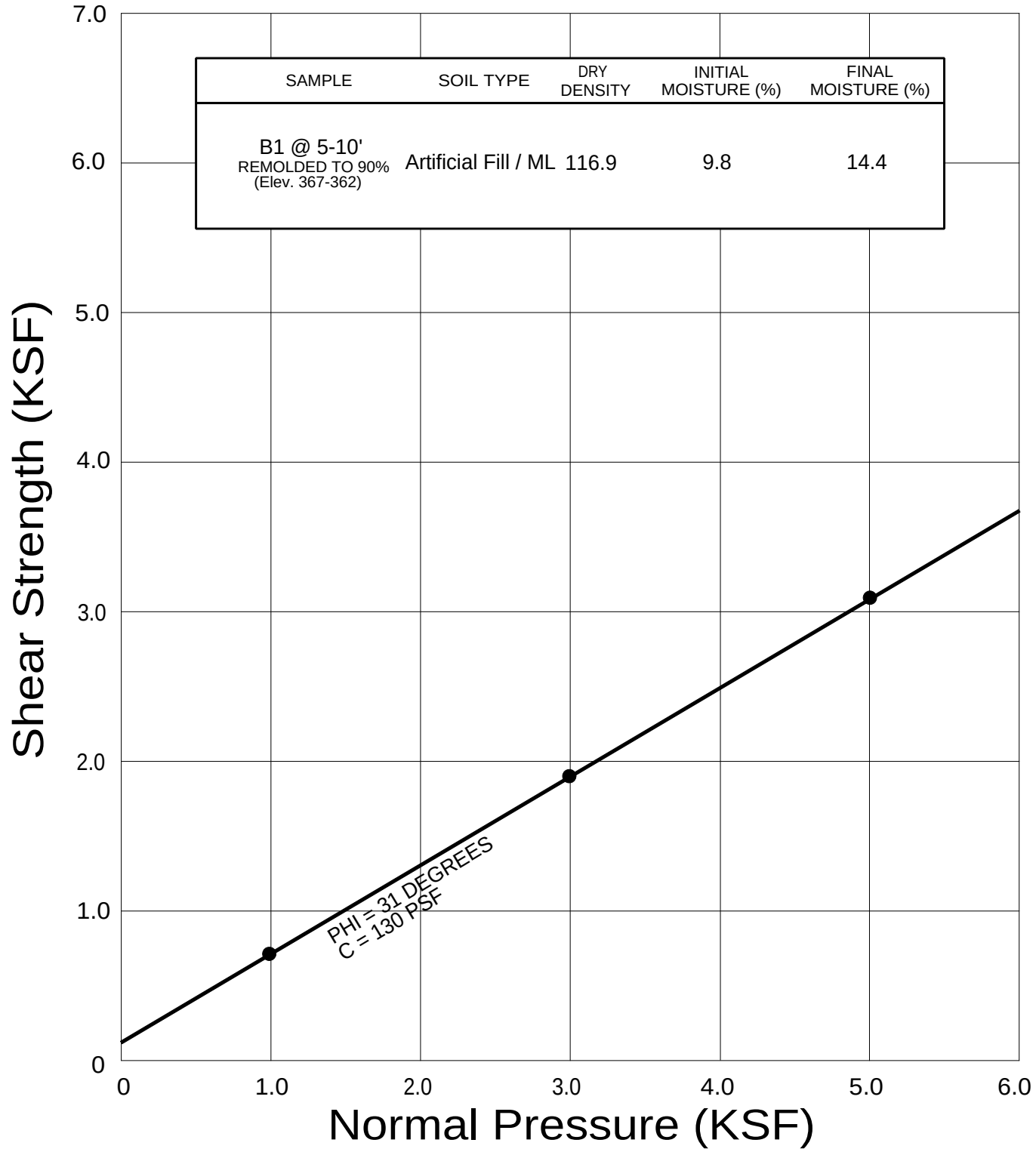
DIRECT SHEAR TEST RESULTS

UCLA - BRADLEY HALL
GAYLEY AVE AND STRATHMORE PL
LOS ANGELES, CALIFORNIA

DEC 2016 | PROJECT NO. A9060-06-08 | FIG. B2

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B1 @ 5-10' REMOLDED TO 90% (Elev. 367-362)	Artificial Fill / ML	116.9	9.8	14.4



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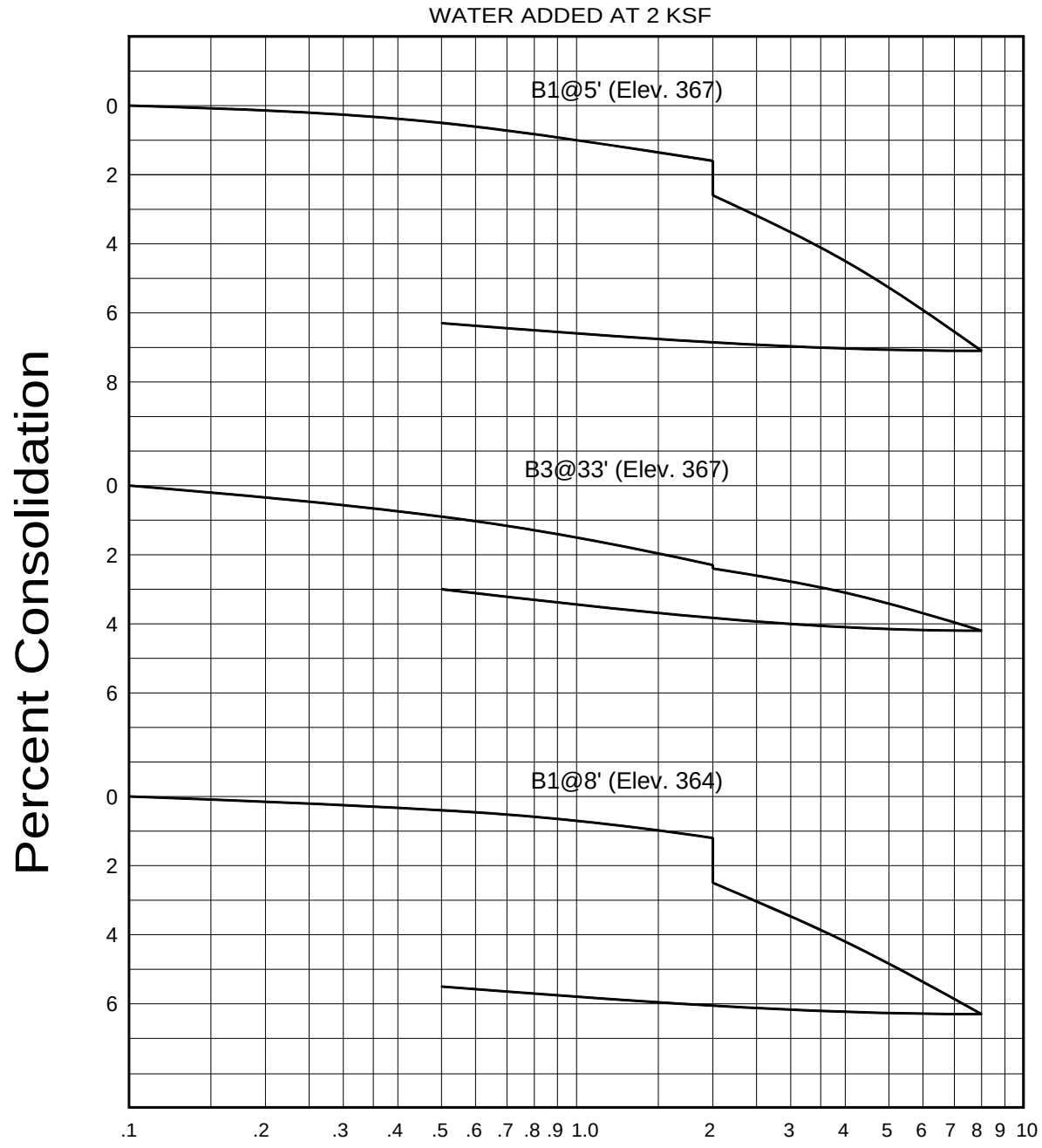
DIRECT SHEAR TEST RESULTS

UCLA - BRADLEY HALL
GAYLEY AVE AND STRATHMORE PL
LOS ANGELES, CALIFORNIA

DEC 2016 | PROJECT NO. A9060-06-08 | FIG. B3



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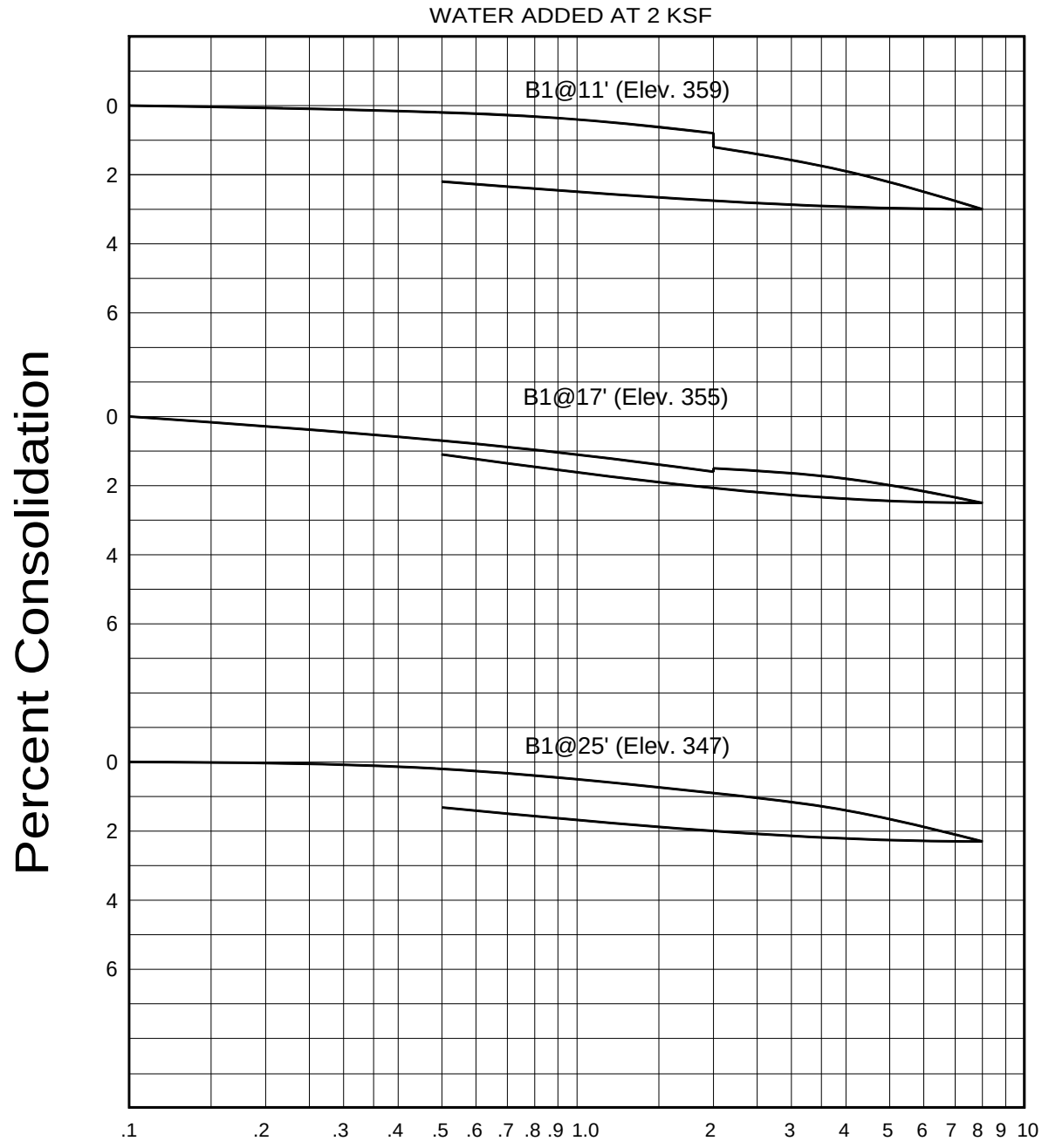
DRAFTED BY: JO	CHECKED BY: HHD

CONSOLIDATION TEST RESULTS

UCLA - BRADLEY HALL
GAYLEY AVE AND STRATHMORE PL
LOS ANGELES, CALIFORNIA

DEC 2016	PROJECT NO. A9060-06-08	FIG. B4



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DRAFTED BY: JO	CHECKED BY: HHD

CONSOLIDATION TEST RESULTS

UCLA - BRADLEY HALL
GAYLEY AVE AND STRATHMORE PL
LOS ANGELES, CALIFORNIA

DEC 2016	PROJECT NO. A9060-06-08	FIG. B5

SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-11

Sample No.	Moisture Content (%)		Dry Density (pcf)	Expansion Index	*UBC Classification	**CBC Classification
	Before	After				
B1 @ 5-10' (Elev. 367' - 362')	7.9	19.0	116.7	21	Low	Expansive

* Reference: 1997 Uniform Building Code, Table 18-I-B.

** Reference: 2016 California Building Code, Section 1803.5.3

SUMMARY OF LABORATORY MAXIMUM DENSITY AND AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-12

Sample No.	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture (%)
B1 @ 5-10' (Elev. 367' - 362')	Brown Sandy Silt	130.5	9.0

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DRAFTED BY: JO | CHECKED BY: HHD

LABORATORY TEST RESULTS

UCLA - BRADLEY HALL
GAYLEY AVE AND STRATHMORE PL
LOS ANGELES, CALIFORNIA

DEC 2016 | PROJECT NO. A9060-06-08 | FIG. B6

SUMMARY OF LABORATORY POTENTIAL OF HYDROGEN (pH) AND RESISTIVITY TEST RESULTS CALIFORNIA TEST NO. 643

Sample No.	pH	Resistivity (Ohm Centimeters)
B1 @ 5-10' (Elev. 367' - 362')	8.1	2000 (Corrosive)

SUMMARY OF LABORATORY CHLORIDE CONTENT TEST RESULTS EPA NO. 325.3

Sample No.	Chloride Ion Content (%)
B1 @ 5-10' (Elev. 367' - 362')	0.009

SUMMARY OF LABORATORY WATER SOLUBLE SULFATE TEST RESULTS CALIFORNIA TEST NO. 417

Sample No.	Water Soluble Sulfate (% SO_4)	Sulfate Exposure*
B1 @ 5-10' (Elev. 367' - 362')	0.016	Negligible

* Reference: 2016 California Building Code, Section 1904.3 and ACI 318-11 Section 4.3.

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CORROSIVITY TEST RESULTS

UCLA - BRADLEY HALL
GAYLEY AVE AND STRATHMORE PL
LOS ANGELES, CALIFORNIA

DEC 2016 | PROJECT NO. A9060-06-08 | FIG. B7

Appendix G

Noise Monitoring Results

Summary

File Name on Meter	LxT_Data.009
File Name on PC	SLM_0004615_LxT_Data_009.00.ldbin
Serial Number	0004615
Model	SoundTrack LxT®
Firmware Version	2.301
User	Daria Sarraf
Location	UCLA Campus
Job Description	UCLA LRDP
Note	May 11, 2017 Noise Monitoring

Measurement

Description	
Start	2017-05-11 12:48:09
Stop	2017-05-11 13:08:12
Duration	00:20:02.5
Run Time	00:20:02.5
Pause	00:00:00.0
Pre Calibration	2017-05-11 12:47:16
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
Overload	141.6 dB

	A	C	Z
Under Range Peak	**97.8**	94.8	99.8 dB
Under Range Limit	**35.9**	33.9	41.9 dB
Noise Floor	23.2	23.7	31.1 dB

Results

L_{Aeq}	68.6 dB	
LAE	99.4 dB	
EA	967.413 µPa²h	
EA8	23.170 mPa²h	
EA40	115.848 mPa²h	
$L_{Apeak\ (max)}$	2017-05-11 12:48:32	100.1 dB
L_{ASmax}	2017-05-11 12:52:47	82.9 dB
L_{ASmin}	2017-05-11 13:07:30	48.7 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Ceq}	74.1 dB	
L_{Aeq}	68.6 dB	
L_{Ceq} - L_{Aeq}	5.5 dB	
L_{AIeq}	70.5 dB	
L_{Aeq}	68.6 dB	
L_{AIeq} - L_{Aeq}	1.9 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	68.6		74.1			
$L_{S(max)}$	82.9	2017/05/11 12:52:47				
$L_{S(min)}$	48.7	2017/05/11 13:07:30				
$L_{Peak(max)}$	100.1	2017/05/11 12:48:32				

# Overloads	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	-99.9	0.00	%
Projected Dose	-99.9	0.10	%
TWA (Projected)	-99.9	40.0	dB
TWA (t)	-99.9	17.0	dB
Lep (t)	54.8	54.8	dB

Statistics

LAS1.70	75.1	dB
LAS8.30	72.5	dB
LAS25.00	70.1	dB
LAS50.00	66.4	dB
LAS75.00	59.3	dB
LAS90.00	54.1	dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1	2017-05-11 12:47:16	-47.8			
PRMLxT1	2017-05-11 11:59:00	-47.8			
PRMLxT1	2017-05-11 11:19:00	-47.8			
PRMLxT1	2017-05-11 10:10:31	-47.6			
PRMLxT1	2017-04-27 09:59:50	-47.8			
PRMLxT1	2017-04-26 14:09:38	-49.7			
PRMLxT1	2017-04-26 14:08:39	-49.7			
PRMLxT1	2017-03-22 08:51:20	-49.9			
PRMLxT1	2017-03-22 08:50:59	-49.9			
PRMLxT1	2016-09-24 14:49:01	-49.9			
PRMLxT1	2016-09-24 14:26:53	-49.9			

Record #	Date	Time	Run Duration	LAeq	LASmin	LASmin Time	LASmax	LASmax Time
1	2017-05-11	12:48:09	00:00:50.3	72.7	59.9	12:48:56	82.8	12:48:32
2	2017-05-11	12:49:00	00:01:00.0	69.8	54.8	12:49:19	74.6	12:49:40
3	2017-05-11	12:50:00	00:01:00.0	67.6	57.9	12:50:44	73.9	12:50:26
4	2017-05-11	12:51:00	00:01:00.0	65.1	49.5	12:51:27	73.4	12:51:00
5	2017-05-11	12:52:00	00:01:00.0	72.2	58.0	12:52:26	82.9	12:52:47
6	2017-05-11	12:53:00	00:01:00.0	69.0	54.8	12:53:19	74.8	12:53:00
7	2017-05-11	12:54:00	00:01:00.0	69.5	59.0	12:54:56	74.4	12:54:29
8	2017-05-11	12:55:00	00:01:00.0	66.5	52.7	12:55:59	73.6	12:55:31
9	2017-05-11	12:56:00	00:01:00.0	65.6	51.8	12:56:03	72.1	12:56:51
10	2017-05-11	12:57:00	00:01:00.0	67.9	55.9	12:57:50	73.2	12:57:14
11	2017-05-11	12:58:00	00:01:00.0	69.3	56.1	12:58:59	75.7	12:58:49
12	2017-05-11	12:59:00	00:01:00.0	66.6	49.0	12:59:24	75.5	12:59:41
13	2017-05-11	13:00:00	00:01:00.0	69.6	55.0	13:00:05	75.6	13:00:46
14	2017-05-11	13:01:00	00:01:00.0	69.4	53.5	13:01:10	79.6	13:01:20
15	2017-05-11	13:02:00	00:01:00.0	66.6	48.7	13:02:39	73.7	13:02:04
16	2017-05-11	13:03:00	00:01:00.0	67.7	50.0	13:03:09	74.2	13:03:26
17	2017-05-11	13:04:00	00:01:00.0	68.3	51.9	13:04:23	76.8	13:04:08
18	2017-05-11	13:05:00	00:01:00.0	66.3	50.7	13:05:22	74.2	13:05:09
19	2017-05-11	13:06:00	00:01:00.0	67.0	50.0	13:06:23	74.7	13:06:50
20	2017-05-11	13:07:00	00:01:00.0	67.4	48.7	13:07:30	73.4	13:07:10
21	2017-05-11	13:08:00	00:00:12.2	63.5	51.0	13:08:12	72.9	13:08:00

Summary

File Name on Meter	LxT_Data.004
File Name on PC	SLM_0004615_LxT_Data_004.00.ldbin
Serial Number	0004615
Model	SoundTrack LxT®
Firmware Version	2.301
User	Daria Sarraf
Location	UCLA Campus
Job Description	UCLA LRDP
Note	May 11, 2017 Noise Monitoring

Measurement

Description	
Start	2017-05-11 10:20:07
Stop	2017-05-11 10:40:47
Duration	00:20:40.6
Run Time	00:20:40.6
Pause	00:00:00.0
Pre Calibration	2017-05-11 10:10:31
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamp	PRMLxT1			
Microphone Correction	Off			
Integration Method	Linear			
Overload	141.4 dB			
	A	**C**	**Z**	
Under Range Peak	**97.6**	94.6	99.6	dB
Under Range Limit	**35.8**	33.8	41.8	dB
Noise Floor	23.2	23.6	31.0	dB

Results

L_{Aeq}	60.3	dB	
LAE	91.2	dB	
EA	147.005	µPa²h	
EA8	3.413	mPa²h	
EA40	17.063	mPa²h	
$L_{Apeak\ (max)}$	2017-05-11 10:31:42	89.6	dB
L_{ASmax}	2017-05-11 10:32:46	68.3	dB
L_{ASmin}	2017-05-11 10:24:36	57.8	dB
SEA	-99.9	dB	

LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

L_{Ceq}	67.6	dB
L_{Aeq}	60.3	dB
L_{Ceq} - L_{Aeq}	7.3	dB
L_{AIeq}	61.1	dB
L_{Aeq}	60.3	dB
L_{AIeq} - L_{Aeq}	0.8	dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	60.3		67.6			
$L_{S(max)}$	68.3	2017/05/11 10:32:46				
$L_{S(min)}$	57.8	2017/05/11 10:24:36				
$L_{Peak(max)}$	89.6	2017/05/11 10:31:42				

# Overloads	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	-99.9	-99.9	%
Projected Dose	-99.9	-99.9	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	46.6	46.6	dB

Statistics

LAS1.70	64.6	dB
LAS8.30	61.7	dB
LAS25.00	60.4	dB
LAS50.00	59.8	dB
LAS75.00	59.2	dB
LAS90.00	58.8	dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1	2017-05-11 10:10:31	-47.6			
PRMLxT1	2017-04-27 09:59:50	-47.8			
PRMLxT1	2017-04-26 14:09:38	-49.7			
PRMLxT1	2017-04-26 14:08:39	-49.7			
PRMLxT1	2017-03-22 08:51:20	-49.9			
PRMLxT1	2017-03-22 08:50:59	-49.9			
PRMLxT1	2016-09-24 14:49:01	-49.9			
PRMLxT1	2016-09-24 14:26:53	-49.9			
PRMLxT1	2016-09-24 13:46:58	-49.8			
PRMLxT1	2016-09-24 13:15:37	-49.7			
PRMLxT1	2016-09-24 12:53:16	-49.7			

Record #	Date	Time	Run Duration	Run Time	Pause	LAeq	LAE	LASmin	LASmin Time	LASmax	LASmax Time
1	2017-05-11	10:20:07	00:00:53.0	00:00:53.0	00:00:00.0	60.8	78.0	58.4	10:20:28	66.4	10:20:49
2	2017-05-11	10:21:00	00:01:00.0	00:01:00.0	00:00:00.0	59.6	77.4	58.3	10:21:04	61.4	10:21:34
3	2017-05-11	10:22:00	00:01:00.0	00:01:00.0	00:00:00.0	60.6	78.3	58.9	10:22:54	65.8	10:22:22
4	2017-05-11	10:23:00	00:01:00.0	00:01:00.0	00:00:00.0	59.9	77.7	58.7	10:23:13	61.1	10:23:48
5	2017-05-11	10:24:00	00:01:00.0	00:01:00.0	00:00:00.0	59.5	77.3	57.8	10:24:36	63.7	10:24:52
6	2017-05-11	10:25:00	00:01:00.0	00:01:00.0	00:00:00.0	58.9	76.7	58.1	10:25:16	60.1	10:25:55
7	2017-05-11	10:26:00	00:01:00.0	00:01:00.0	00:00:00.0	61.3	79.1	58.6	10:26:59	67.2	10:26:34
8	2017-05-11	10:27:00	00:01:00.0	00:01:00.0	00:00:00.0	59.8	77.6	58.6	10:27:09	60.9	10:27:55
9	2017-05-11	10:28:00	00:01:00.0	00:01:00.0	00:00:00.0	60.4	78.2	59.0	10:28:57	63.6	10:28:22
10	2017-05-11	10:29:00	00:01:00.0	00:01:00.0	00:00:00.0	60.2	78.0	59.0	10:29:14	61.4	10:29:32
11	2017-05-11	10:30:00	00:01:00.0	00:01:00.0	00:00:00.0	59.7	77.5	58.9	10:30:49	60.5	10:30:35
12	2017-05-11	10:31:00	00:01:00.0	00:01:00.0	00:00:00.0	60.4	78.2	59.3	10:31:52	62.2	10:31:19
13	2017-05-11	10:32:00	00:01:00.0	00:01:00.0	00:00:00.0	61.2	79.0	58.8	10:32:30	68.3	10:32:46
14	2017-05-11	10:33:00	00:01:00.0	00:01:00.0	00:00:00.0	60.5	78.3	58.2	10:33:12	64.2	10:33:50
15	2017-05-11	10:34:00	00:01:00.0	00:01:00.0	00:00:00.0	60.6	78.4	58.5	10:34:27	66.7	10:34:45
16	2017-05-11	10:35:00	00:01:00.0	00:01:00.0	00:00:00.0	60.0	77.7	58.7	10:35:07	63.6	10:35:28
17	2017-05-11	10:36:00	00:01:00.0	00:01:00.0	00:00:00.0	59.6	77.4	58.4	10:36:59	60.5	10:36:12
18	2017-05-11	10:37:00	00:01:00.0	00:01:00.0	00:00:00.0	60.5	78.3	58.2	10:37:06	66.1	10:37:28
19	2017-05-11	10:38:00	00:01:00.0	00:01:00.0	00:00:00.0	60.5	78.3	58.8	10:38:03	63.4	10:38:42
20	2017-05-11	10:39:00	00:01:00.0	00:01:00.0	00:00:00.0	59.2	76.9	58.1	10:39:56	60.2	10:39:11
21	2017-05-11	10:40:00	00:00:47.6	00:00:47.6	00:00:00.0	62.0	78.8	58.2	10:40:04	66.4	10:40:17

Summary

File Name on Meter	LxT_Data.005
File Name on PC	SLM_0004615_LxT_Data_005.00.ldbin
Serial Number	0004615
Model	SoundTrack LxT®
Firmware Version	2.301
User	Daria Sarraf
Location	UCLA Campus
Job Description	UCLA LRDP
Note	May 11, 2017 Noise Monitoring

Measurement

Description	
Start	2017-05-11 11:18:46
Stop	2017-05-11 11:39:28
Duration	00:20:04.0
Run Time	00:20:04.0
Pause	00:00:00.0
Pre Calibration	2017-05-11 10:10:31
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
Overload	141.6 dB

	A	**C**	**Z**
Under Range Peak	**97.8**	94.8	99.8
Under Range Limit	**35.9**	33.9	41.9
Noise Floor	23.2	23.7	31.1

Results

L_{Aeq}	70.7 dB	
LAE	101.5 dB	
EA	1.561 mPa²h	
EA8	37.350 mPa²h	
EA40	186.752 mPa²h	
$L_{Apeak\ (max)}$	2017-05-11 11:34:06	103.1 dB
L_{ASmax}	2017-05-11 11:34:06	92.0 dB
L_{ASmin}	2017-05-11 11:38:42	56.4 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	1	8.7 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Ceq}	77.8 dB	
L_{Aeq}	70.7 dB	
L_{Ceq} - L_{Aeq}	7.1 dB	
L_{AIeq}	73.3 dB	
L_{Aeq}	70.7 dB	
L_{AIeq} - L_{Aeq}	2.7 dB	

	A		C	Z	
	dB	Time Stamp	dB	dB	Time Stamp
L_{eq}	70.7		77.8		
$L_{S(max)}$	92.0	2017/05/11 11:34:06			
$L_{S(min)}$	56.4	2017/05/11 11:38:42			
$L_{Peak(max)}$	103.1	2017/05/11 11:34:06			

# Overloads	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	0.01	0.03	%
Projected Dose	0.21	0.67	%
TWA (Projected)	45.5	53.9	dB
TWA (t)	22.6	31.0	dB
Lep (t)	56.9	56.9	dB

Statistics

LAS1.70	76.6	dB
LAS8.30	71.7	dB
LAS25.00	67.4	dB
LAS50.00	64.4	dB
LAS75.00	62.1	dB
LAS90.00	60.1	dB

Calibration History

Preamp	Date	dB re. 1V/Pa	8.0	10.0
PRMLxT1	2017-05-11 11:19:00	-47.8		
PRMLxT1	2017-05-11 10:10:31	-47.6		
PRMLxT1	2017-04-27 09:59:50	-47.8		
PRMLxT1	2017-04-26 14:09:38	-49.7		
PRMLxT1	2017-04-26 14:08:39	-49.7		
PRMLxT1	2017-03-22 08:51:20	-49.9		
PRMLxT1	2017-03-22 08:50:59	-49.9		
PRMLxT1	2016-09-24 14:49:01	-49.9		
PRMLxT1	2016-09-24 14:26:53	-49.9		
PRMLxT1	2016-09-24 13:46:58	-49.8		
PRMLxT1	2016-09-24 13:15:37	-49.7		

Record #	Date	Time	Run Duration	LAeq	LASmin	LASmin Time	LASmax	LASmax Time
1	2017-05-11	11:18:46	00:00:01.5	84.2	63.8	11:18:46	84.4	11:18:48
2	2017-05-11	11:19:25	00:00:34.5	64.7	62.3	11:19:38	71.2	11:19:26
3	2017-05-11	11:20:00	00:01:00.0	67.5	60.1	11:20:57	74.5	11:20:06
4	2017-05-11	11:21:00	00:01:00.0	64.5	58.9	11:21:28	69.0	11:21:19
5	2017-05-11	11:22:00	00:01:00.0	70.3	62.0	11:22:59	75.4	11:22:37
6	2017-05-11	11:23:00	00:01:00.0	70.5	61.9	11:23:26	79.2	11:23:53
7	2017-05-11	11:24:00	00:01:00.0	64.3	59.9	11:24:14	68.6	11:24:01
8	2017-05-11	11:25:00	00:01:00.0	66.6	61.0	11:25:43	72.5	11:25:27
9	2017-05-11	11:26:00	00:01:00.0	68.9	60.8	11:26:12	75.5	11:26:56
10	2017-05-11	11:27:00	00:01:00.0	65.9	60.0	11:27:25	73.3	11:27:36
11	2017-05-11	11:28:00	00:01:00.0	62.3	58.0	11:28:06	67.7	11:28:59
12	2017-05-11	11:29:00	00:01:00.0	69.4	58.6	11:29:38	78.4	11:29:20
13	2017-05-11	11:30:00	00:01:00.0	67.7	60.0	11:30:59	75.6	11:30:37
14	2017-05-11	11:31:00	00:01:00.0	64.5	59.7	11:31:27	70.4	11:31:34
15	2017-05-11	11:32:00	00:01:00.0	68.0	60.0	11:32:28	75.3	11:32:39
16	2017-05-11	11:33:00	00:01:00.0	69.0	62.0	11:33:03	77.1	11:33:59
17	2017-05-11	11:34:00	00:01:00.0	81.1	59.5	11:34:38	92.0	11:34:06
18	2017-05-11	11:35:00	00:01:00.0	65.9	58.6	11:35:37	72.7	11:35:10
19	2017-05-11	11:36:00	00:01:00.0	66.1	57.9	11:36:32	73.4	11:36:18
20	2017-05-11	11:37:00	00:01:00.0	64.3	57.6	11:37:18	70.9	11:37:46
21	2017-05-11	11:38:00	00:01:00.0	60.9	56.4	11:38:42	66.4	11:38:57
22	2017-05-11	11:39:00	00:00:28.0	66.0	60.1	11:39:25	69.2	11:39:05

Summary

File Name on Meter	LxT_Data.007
File Name on PC	SLM_0004615_LxT_Data_007.00.ldbin
Serial Number	0004615
Model	SoundTrack LxT®
Firmware Version	2.301
User	Daria Sarraf
Location	UCLA Campus
Job Description	UCLA LRDP
Note	May 11, 2017 Noise Monitoring

Measurement

Description	
Start	2017-05-11 12:05:44
Stop	2017-05-11 12:25:46
Duration	00:20:01.8
Run Time	00:20:01.8
Pause	00:00:00.0
Pre Calibration	2017-05-11 11:59:00
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
Overload	141.6 dB

	A	C	Z	
Under Range Peak	**97.8**	94.8	99.8	dB
Under Range Limit	**35.9**	33.9	41.9	dB
Noise Floor	23.2	23.7	31.1	dB

Results

L_{Aeq}	66.6	dB	
LAE	97.4	dB	
EA	611.404	µPa²h	
EA8	14.652	mPa²h	
EA40	73.259	mPa²h	
$L_{Apeak\ (max)}$	2017-05-11 12:23:07	96.8	dB
L_{ASmax}	2017-05-11 12:21:54	76.5	dB
L_{ASmin}	2017-05-11 12:24:33	53.5	dB
SEA	-99.9	dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0	s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{Apeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{Apeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{Apeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{Ceq}	79.2	dB	
L_{Aeq}	66.6	dB	
L_{Ceq} - L_{Aeq}	12.6	dB	
L_{Aleq}	67.7	dB	
L_{Aeq}	66.6	dB	
L_{Aleq} - L_{Aeq}	1.1	dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	66.6		79.2			
$L_{S(max)}$	76.5	2017/05/11 12:21:54				
$L_{S(min)}$	53.5	2017/05/11 12:24:33				
$L_{Peak(max)}$	96.8	2017/05/11 12:23:07				

# Overloads	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	-99.9	-99.9	%
Projected Dose	-99.9	-99.9	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	52.8	52.8	dB

Statistics

LAS1.70	73.0	dB
LAS8.30	70.6	dB
LAS25.00	67.7	dB
LAS50.00	64.8	dB
LAS75.00	60.6	dB
LAS90.00	58.2	dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1	2017-05-11 11:59:00	-47.8			
PRMLxT1	2017-05-11 11:19:00	-47.8			
PRMLxT1	2017-05-11 10:10:31	-47.6			
PRMLxT1	2017-04-27 09:59:50	-47.8			
PRMLxT1	2017-04-26 14:09:38	-49.7			
PRMLxT1	2017-04-26 14:08:39	-49.7			
PRMLxT1	2017-03-22 08:51:20	-49.9			
PRMLxT1	2017-03-22 08:50:59	-49.9			
PRMLxT1	2016-09-24 14:49:01	-49.9			
PRMLxT1	2016-09-24 14:26:53	-49.9			
PRMLxT1	2016-09-24 13:46:58	-49.8			

Record #	Date	Time	Run Duration	LAeq	LASmin	LASmin Time	LASmax	LASmax Time
1	2017-05-11	12:05:44	00:00:15.4	62.3	57.4	12:05:44	66.2	12:05:52
2	2017-05-11	12:06:00	00:01:00.0	65.6	57.7	12:06:29	72.7	12:06:03
3	2017-05-11	12:07:00	00:01:00.0	67.6	57.7	12:07:01	76.2	12:07:31
4	2017-05-11	12:08:00	00:01:00.0	65.4	58.3	12:08:32	72.2	12:08:40
5	2017-05-11	12:09:00	00:01:00.0	64.5	57.9	12:09:14	69.5	12:09:46
6	2017-05-11	12:10:00	00:01:00.0	70.1	63.8	12:10:03	73.6	12:10:54
7	2017-05-11	12:11:00	00:01:00.0	67.8	57.9	12:11:58	74.6	12:11:05
8	2017-05-11	12:12:00	00:01:00.0	66.8	57.2	12:12:59	71.9	12:12:19
9	2017-05-11	12:13:00	00:01:00.0	65.9	57.0	12:13:02	71.0	12:13:42
10	2017-05-11	12:14:00	00:01:00.0	64.8	56.6	12:14:12	70.4	12:14:51
11	2017-05-11	12:15:00	00:01:00.0	64.6	54.7	12:15:26	72.6	12:15:05
12	2017-05-11	12:16:00	00:01:00.0	67.0	60.9	12:16:47	72.0	12:16:11
13	2017-05-11	12:17:00	00:01:00.0	67.3	56.0	12:17:59	71.8	12:17:42
14	2017-05-11	12:18:00	00:01:00.0	64.2	55.7	12:18:00	70.8	12:18:59
15	2017-05-11	12:19:00	00:01:00.0	63.6	56.8	12:19:44	70.7	12:19:00
16	2017-05-11	12:20:00	00:01:00.0	64.8	54.6	12:20:46	71.7	12:20:58
17	2017-05-11	12:21:00	00:01:00.0	69.0	57.6	12:21:36	76.5	12:21:54
18	2017-05-11	12:22:00	00:01:00.0	68.1	58.7	12:22:50	74.1	12:22:09
19	2017-05-11	12:23:00	00:01:00.0	66.8	56.5	12:23:23	71.9	12:23:14
20	2017-05-11	12:24:00	00:01:00.0	64.8	53.5	12:24:33	70.4	12:24:20
21	2017-05-11	12:25:00	00:00:46.4	67.5	59.3	12:25:38	72.4	12:25:14

Summary

File Name on Meter	LxT_Data.010
File Name on PC	SLM_0004615_LxT_Data_010.00.ldbin
Serial Number	0004615
Model	SoundTrack LxT®
Firmware Version	2.301
User	Daria Sarraf
Location	UCLA Campus
Job Description	UCLA LRDP
Note	May 11, 2017 Noise Monitoring

Measurement

Description	
Start	2017-05-11 13:46:05
Stop	2017-05-11 14:06:06
Duration	00:20:01.4
Run Time	00:20:01.4
Pause	00:00:00.0
Pre Calibration	2017-05-11 13:45:38
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamp	PRMLxT1			
Microphone Correction	Off			
Integration Method	Linear			
Overload	141.6 dB			
	A	**C**	**Z**	
Under Range Peak	**97.8**	94.8	99.8	dB
Under Range Limit	**35.9**	33.9	41.9	dB
Noise Floor	23.2	23.7	31.1	dB

Results

L_{Aeq}	76.1	dB	
LAE	106.9	dB	
EA	5.408	mPa^2h	
EA8	129.652	mPa^2h	
EA40	648.259	mPa^2h	
$L_{Apeak\ (max)}$	2017-05-11 13:58:42	108.9	dB
L_{ASmax}	2017-05-11 13:58:42	93.8	dB
L_{ASmin}	2017-05-11 14:01:37	55.8	dB
SEA	-99.9	dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	2	5.0	s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{Apeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{Apeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{Apeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{Ceq}	81.6	dB	
L_{Aeq}	76.1	dB	
L_{Ceq} - L_{Aeq}	5.5	dB	
L_{Aleq}	77.8	dB	
L_{Aeq}	76.1	dB	
L_{Aleq} - L_{Aeq}	1.8	dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	76.1		81.6			
$L_{S(max)}$	93.8	2017/05/11 13:58:42				
$L_{S(min)}$	55.8	2017/05/11 14:01:37				
$L_{Peak(max)}$	108.9	2017/05/11 13:58:42				

# Overloads	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	0.01	0.05	%
Projected Dose	0.16	1.26	%
TWA (Projected)	43.6	58.4	dB
TWA (t)	20.7	35.5	dB
Lep (t)	62.3	62.3	dB

Statistics

LAS1.70	81.1	dB
LAS8.30	79.1	dB
LAS25.00	77.5	dB
LAS50.00	74.7	dB
LAS75.00	71.5	dB
LAS90.00	68.9	dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1	2017-05-11 13:45:36	-47.8			
PRMLxT1	2017-05-11 12:47:16	-47.8			
PRMLxT1	2017-05-11 11:59:00	-47.8			
PRMLxT1	2017-05-11 11:19:00	-47.8			
PRMLxT1	2017-05-11 10:10:31	-47.6			
PRMLxT1	2017-04-27 09:59:50	-47.8			
PRMLxT1	2017-04-26 14:09:38	-49.7			
PRMLxT1	2017-04-26 14:08:39	-49.7			
PRMLxT1	2017-03-22 08:51:20	-49.9			
PRMLxT1	2017-03-22 08:50:59	-49.9			
PRMLxT1	2016-09-24 14:49:01	-49.9			

Record #	Date	Time	Run Duration	LAeq	LASmin	LASmin Time	LASmax	LASmax Time
1	2017-05-11	13:46:05	00:00:54.8	77.2	65.8	13:46:18	82.2	13:46:05
2	2017-05-11	13:47:00	00:01:00.0	75.7	57.2	13:47:49	81.9	13:47:03
3	2017-05-11	13:48:00	00:01:00.0	76.9	67.1	13:48:03	81.0	13:48:18
4	2017-05-11	13:49:00	00:01:00.0	74.0	67.3	13:49:06	80.6	13:49:00
5	2017-05-11	13:50:00	00:01:00.0	76.3	67.5	13:50:04	80.2	13:50:19
6	2017-05-11	13:51:00	00:01:00.0	75.4	68.5	13:51:39	80.0	13:51:50
7	2017-05-11	13:52:00	00:01:00.0	77.7	69.3	13:52:41	83.2	13:52:47
8	2017-05-11	13:53:00	00:01:00.0	73.4	58.5	13:53:27	78.7	13:53:11
9	2017-05-11	13:54:00	00:01:00.0	78.3	72.3	13:54:08	85.2	13:54:41
10	2017-05-11	13:55:00	00:01:00.0	75.8	60.3	13:55:19	81.5	13:55:48
11	2017-05-11	13:56:00	00:01:00.0	74.8	68.6	13:56:59	79.0	13:56:44
12	2017-05-11	13:57:00	00:01:00.0	74.0	67.7	13:57:03	78.1	13:57:54
13	2017-05-11	13:58:00	00:01:00.0	81.1	74.0	13:58:33	93.8	13:58:42
14	2017-05-11	13:59:00	00:01:00.0	73.4	65.2	13:59:45	79.6	13:59:28
15	2017-05-11	14:00:00	00:01:00.0	74.1	63.8	14:00:52	78.5	14:00:46
16	2017-05-11	14:01:00	00:01:00.0	72.2	55.8	14:01:37	81.3	14:01:58
17	2017-05-11	14:02:00	00:01:00.0	77.0	70.1	14:02:50	81.4	14:02:38
18	2017-05-11	14:03:00	00:01:00.0	73.2	66.8	14:03:11	80.2	14:03:03
19	2017-05-11	14:04:00	00:01:00.0	75.9	68.2	14:04:57	83.2	14:04:09
20	2017-05-11	14:05:00	00:01:00.0	74.4	68.2	14:05:24	80.1	14:05:46
21	2017-05-11	14:06:00	00:00:06.6	73.2	67.4	14:06:04	77.1	14:06:00

Appendix H

Transportation Impact Analysis

UNIVERSITY OF CALIFORNIA, LOS ANGELES
LONG RANGE DEVELOPMENT PLAN AMENDMENT (2017) AND STUDENT HOUSING PROJECTS
TRANSPORTATION IMPACT ANALYSIS

The University of California, Los Angeles (UCLA) is proposing an amendment to its Long Range Development Plan (LRDP) to allocate an additional 1,500,000 gross square feet (gsf) of new development in various campus zones necessary to accommodate residential development on campus ("proposed Project"). The proposed Project would consist of up to 6,900 beds for student housing to be added across five sites, all within the UCLA campus. Figure 1 identifies the location of the campus and the proposed housing sites. In addition to the added students, the proposed Project would also employ staff to provide various services for the new housing.

Crain & Associates has been retained to assess the potential impacts of the proposed Project on the surrounding roadway system. The analysis that follows was prepared in accordance with the assumptions, methodology, and procedures outlined by the City of Los Angeles Department of Transportation (LADOT). Operating conditions were analyzed at 17 intersections, as shown in Figure 1. This report presents the results of an analysis of existing (2017) roadway conditions and the expected trip generation associated with the proposed Project.

Project Description

In addition to the addition of 1,500,000 gsf to the Existing LRDP, the proposed Project consists of housing development that would add up to 6,900 beds on the UCLA campus, which is located in the Westwood Community Plan area of the City of Los Angeles. The proposed Project housing would be divided among five sites (the "Development Sites"), all of which would be inside the boundaries of the UCLA campus, as shown in Figure 1. These Development Sites include the following:

- Lot 15 undergraduate student housing on the site of Parking Lot 15 on De Neve Drive. Access to Lot 15 is currently provided from a driveway intersecting the west side of De Neve Drive. This would continue to be the vehicular access point with implementation of the proposed housing development; no access would be provided from Veteran Avenue.

- Warren Hall undergraduate student housing at Warren Hall (900 Weyburn Place North). Access to Warren Hall is currently provided from Weyburn Place, which forms the northeastern boundary of the site. This roadway would also provide vehicular access to the proposed housing development.

- UNEX undergraduate student housing at the UCLA Extension & Administration Building (10995 Le Conte Avenue). Access to the UNEX site is currently provided from Levering

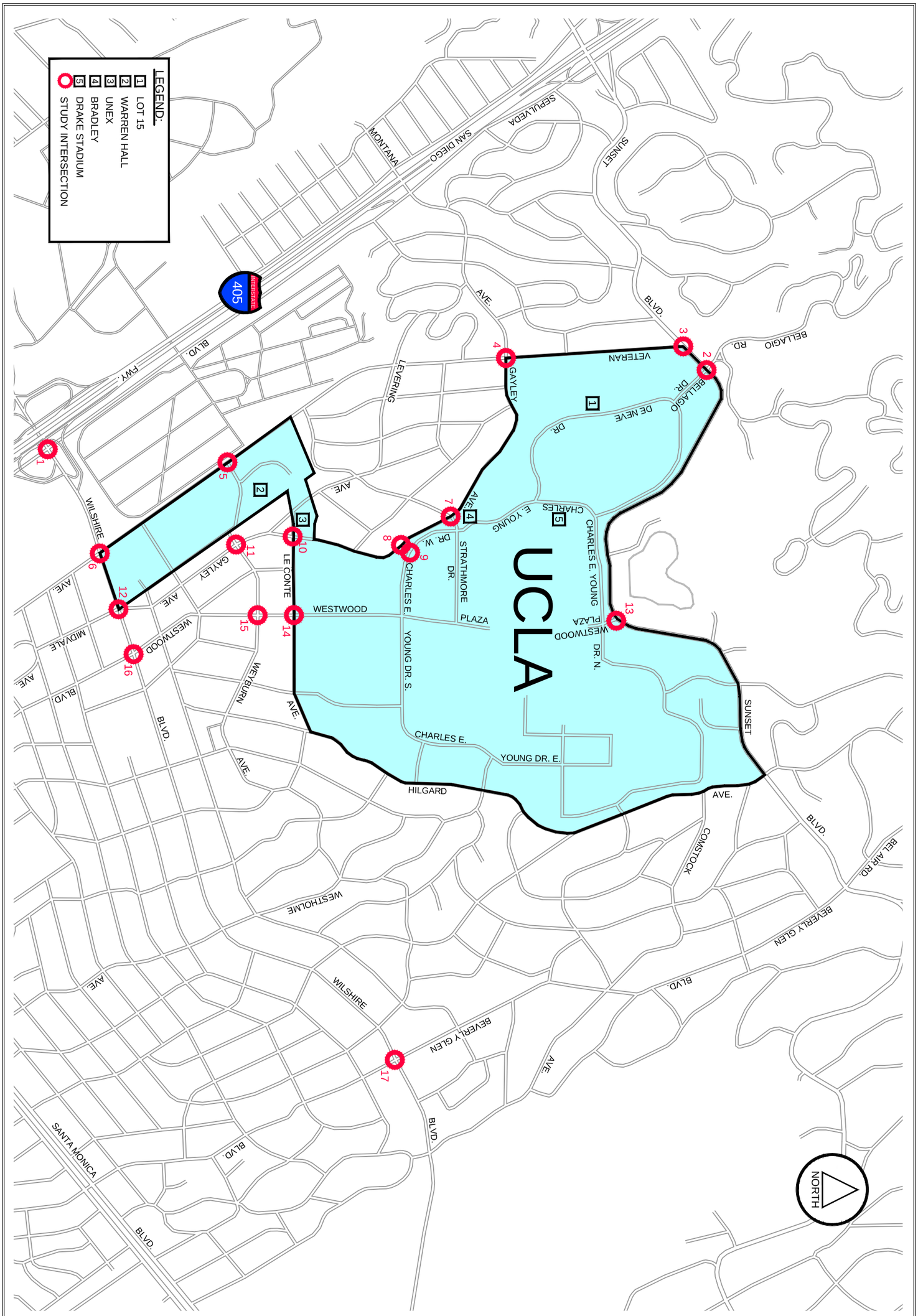

FIGURE 1

8/1/2017

FN: UCLALRDPAmendmentTIS\STUDY_INTS

PROJECT SITE VICINITY AND STUDY INTERSECTIONS

CRAIN & ASSOCIATES
Transportation Planning
Traffic Engineering
300 Corporate Pointe, Suite 470
Culver City, California 90230
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Avenue and Gayley Avenue. With implementation of the proposed housing development, vehicular access would be provided via a driveway that would intersect the west side of Gayley Avenue. This roadway would be used to access the designated loading area and University vehicle-only parking.

- Bradley undergraduate student housing to be situated southeast of Bradley International Hall (417 Charles E. Young Drive West). The Bradley site is currently undeveloped, and there is no existing vehicular access to the site. With implementation of the proposed housing development, vehicular access would be provided from a driveway that would intersect the west side of Charles E. Young Drive West, which would be used primarily for service vehicles.

- Drake Stadium undergraduate and graduate student housing west of Drake Track & Field Stadium (340 Charles E. Young Drive North) Charles E. Young Drive North and Charles E. Young Drive West form the northern and western boundaries of the site, respectively; however, there is currently no direct vehicular access from these roadways to the site (concourse area). Consistent with existing conditions, vehicular access would not be provided with the proposed housing development.

It should be noted that none of the proposed housing developments would provide on-site parking, with the exception of a limited number of parking spaces necessary to comply with Americans with Disabilities Act (ADA) requirements and to accommodate the drop-off, pick-up, and service needs at each location. Should residents need parking, parking permits would be available for spaces on the UCLA campus.

The proposed housing projects would exclusively house UCLA students. The vast majority of Project occupants (approximately 6,412 of 6,900) would be undergraduate students, and the remaining occupants (approximately 488 of 6,900) would be graduate students. Out of the five Development Sites, four would be used entirely for undergraduate student housing, and one (Warren Hall) would house a mix of undergraduate students and graduate students.

The students housed by the proposed housing projects would be pulled from a variety of housing demographics. The 6,900 total students occupying the Project would consist of 1,550 newly enrolled students, 1,962 continuing students who currently live on campus who would be "de-tripled" from more crowded housing, 1,900 continuing students who currently do not live on campus and commute, 1,000 new transfer students, and 488 graduate students. Table 1 displays these student demographic breakdowns for each of the five Development Sites.

Table 1
Student Demographic Breakdown across Development Sites

DEMOGRAPHIC	DEVELOPMENT SITE					TOTAL
	LOT 15	WARREN	UNEX	BRADLEY	DRAKE	
Newly Enrolled Students	1,050	0	0	100	400	**1,550**
Continuing Students (Currently On Campus)	300	462	600	400	200	**1,962**
Continuing Students (Currently Off Campus)	200	1,000	550	50	100	**1,900**
Transfer Student	250	400	200	50	100	**1,000**
Graduate Students	0	488	0	0	0	**488**
Total	**1,800**	**2,350**	**1,350**	**600**	**800**	**6,900**

The proposed Project is also estimated to employ 145 new staff members. These new employees would be required to oversee the maintenance and day-to-day operations of the proposed housing developments and provide services for the proposed Project residents. Descriptions of the number and type of staff to be employed for the proposed Project are provided in Table 2.

Table 2
Employment Breakdown across Development Sites

EMPLOYEE TYPE	DEVELOPMENT SITE					TOTAL
	LOT 15	WARREN	UNEX	BRADLEY	DRAKE	
Maintenance	6	6	3	4	4	**23**
Grounds	1	1	1	1	0	**4**
Custodial	25	4	2	9	16	**56**
Administrative	1	1	1	1	1	**5**
Residential Life	3	1	0	3	3	**10**
Dining	2	0	0	45	0	**47**
Total	**38**	**13**	**7**	**63**	**24**	**145**

It is estimated that the proposed housing projects at the Lot 15, Warren Hall, and UNEX sites would be completed by 2021, and the housing projects at the Bradley and Drake Stadium sites would be completed by 2015. Therefore, the proposed housing projects are anticipated to be fully completed by the year 2025.

Environmental Setting

The proposed housing projects are located within the UCLA campus, in the Westwood Community Plan area of the City of Los Angeles. UCLA connects with Westwood Village to the south, which is developed with a wide mix of uses, including office, educational, retail, restaurant, residential, entertainment, and cultural uses. Low- to medium-density residential

development primarily surrounds UCLA to the north and to the east, and low-, medium- and high-density residential development abuts UCLA to the west.

The Project sites and surrounding uses in the Westwood Community Plan area are well-served by freeways, boulevards, avenues, and collector streets. The UCLA campus also offers excellent connections and resources for traveling via alternative modes. UCLA is well connected to local and regional public transportation networks, and provides noticeable bicycle and pedestrian infrastructure.

The "baseline condition" for purposes of analysis in this transportation impact analysis is the environmental setting described below.

Existing Freeways

Regional access to UCLA is provided predominately via the San Diego Freeway (Interstate 405 [I-405]). The Santa Monica Freeway (Interstate 10 [I-10]) also facilitates UCLA trips traveling east-west throughout the region. The following paragraphs describe each of these freeways in more detail. The annual average daily traffic (AADT) volumes provided are from the most current (2015) data available through the State of California Department of Transportation ("Caltrans") website.

The San Diego Freeway (I-405) is a north-south oriented freeway located approximately one-half to three-quarters of a mile west of UCLA. This facility has four to five mainline travel lanes and one HOV lane in each direction. It runs along the western and southern parts of the Greater Los Angeles Area from Irvine in the south to near San Fernando in the north. The San Diego Freeway provides a Westside alternative route to the Harbor Freeway (Interstate 110) and Golden State Freeway (Interstate 5), which traverse through downtown Los Angeles approximately 12 miles to the east. The San Diego Freeway carries an AADT volume of approximately 308,000 vehicles per day south of Wilshire Boulevard, with peak-hour volumes of approximately 22,700 vehicles per hour. The San Diego Freeway has on- and off-ramps in both northbound and southbound directions at Sunset Boulevard and Wilshire Boulevard.

The Santa Monica Freeway (I-10) extends eastward from its origin in the City of Santa Monica, through Los Angeles and San Bernardino counties to the Arizona border and across the country as a main southern east-west interstate. The Santa Monica Freeway is located approximately two miles south of UCLA and generally provides four mainline travel lanes per direction, with auxiliary lanes provided between certain ramp locations. This freeway carries an AADT volume of approximately 245,000 vehicles per day east of Overland Avenue, with peak-hour volumes of approximately 15,800 vehicles per hour. The Santa Monica Freeway connects with the San Diego Freeway approximately two miles south of UCLA. The nearest westbound and eastbound on- and off-ramps for the Santa Monica Freeway are provided on Overland Avenue.

Existing Highways and Streets

The key highways and streets near UCLA are briefly described below:

Bellagio Way/Bellagio Drive provides direct access to both the community of Bel Air, north of Sunset Boulevard, and UCLA, south of Sunset Boulevard. North of Sunset Boulevard, Bellagio Way becomes Bellagio Road and is designated a Collector street (per the City of Los Angeles *Mobility Plan 2035*). This roadway runs north for approximately two-thirds of a mile, where it becomes Roscomare Road. South of Sunset Boulevard, Bellagio Drive extends approximately one-tenth of a mile into the UCLA campus and connects to De Neve Drive. Bellagio Way/Bellagio Drive generally provides one travel lane in each direction in the study area, with left- and right-turn channelization at its intersection with Sunset Boulevard.

Beverly Glen Boulevard is a north-south roadway, which traverses from Ventura Boulevard in the Sherman Oaks, through Beverly Glen, Holmby Hills, and Westwood, to Pico Boulevard in Rancho Park. In the vicinity of UCLA, Beverly Glen Boulevard is designated as an Avenue II roadway north of Wilshire Boulevard and an Avenue I south of Wilshire Boulevard. Beverly Glen Boulevard generally provides one travel lane per direction, with on-street parking allowed, north of Wilshire Boulevard. South of Wilshire Boulevard, the roadway features two travel lanes in each direction, with on-street parking allowed and left-turn channelization at major intersections.

Charles E. Young Drive is an internal UCLA loop roadway that provides access throughout much of campus. The roadway has four different components (North, South, East, and West) corresponding to the portions of the main campus it serves. This roadway forms the western boundary of the Drake Stadium site and the eastern boundary of the Bradley site. The roadway generally provides one lane in each direction, with left- and/or right-turn channelization at major intersections.

De Neve Drive is an internal UCLA roadway that provides access to the Northwest Zone of campus. The roadway provides a loop through the Northwest Zone, beginning at Charles E. Young Drive West in the vicinity of Sproul Cove and Landing and terminating at its intersection with Charles E. Young Drive West and Charles E. Young Drive North. This roadway forms the eastern boundary of the Lot 15 site. The roadway provides one-way travel northbound between Charles E. Young Drive West and Bellagio Drive and two-way travel between Bellagio Drive and Charles E. Young Drive North. De Neve Drive generally provides one travel lane per direction and a bicycle lane along its one-way segment.

Le Conte Avenue is an Avenue II designated roadway between Gayley Avenue and Hilgard Avenue, becoming a Local street east of Hilgard Avenue. This roadway forms the southern boundary of the UNEX site. There is one travel lane and left-turn channelization in each direction on Le Conte Avenue between Levering Avenue and Hilgard Avenue. It is also striped

with a bicycle lane in each direction between Gayley Avenue and Hilgard Avenue. On-street parking is permitted on some portions of the roadway, including the north side of the roadway adjacent to the UNEX site. A pedestrian scramble crosswalk is located at this roadway's intersection with Westwood Plaza/Westwood Boulevard.

Levering Avenue is a Local street that extends from Montana Avenue south to Gayley Avenue. The roadway forms the western boundary of the UNEX site. Levering Avenue provides one travel lane in each direction with on-street parking permitted along some portions of the roadway.

Montana Avenue/Gayley Avenue/Midvale Avenue is generally designated an Avenue II roadway in the vicinity of UCLA, and it is a primary access route for Westwood Village and the campus. Gayley Avenue begins at Veteran Avenue, opposite Montana Avenue (a Collector street), and runs southeasterly adjacent to campus to its intersection with Wilshire Boulevard, where it becomes Midvale Avenue. This roadway forms the western boundary of the Bradley site and the eastern boundary of the UNEX site. Gayley Avenue generally provides two travel lanes in each direction at the study intersections, with left- and right-turn channelization at some locations. A combination of bicycle routes and lanes are provides along portions of Montana Avenue, Gayley Avenue, and Midvale Avenue.

Sepulveda Boulevard is a Boulevard II designated roadway, Sepulveda Boulevard extends from the northern San Fernando Valley to the South Bay. It runs along the east side of the San Diego Freeway in the vicinity of UCLA. Sepulveda Boulevard is generally striped with two travel lanes per direction, with left- and right-turn channelization at major intersections.

Strathmore Drive is a Local street that provides a connection between the multi-family residential housing west of campus and UCLA. This roadway begins at Veteran Avenue, across from the Los Angeles National Veterans Cemetery, and extends northeasterly, crossing into the UCLA campus at Gayley Avenue just north of Parking Structure 8. This roadway forms the southern boundary of the Bradley site. Strathmore Drive generally provides one travel lane in each direction with on-street parking, west of Gayley Avenue. East of Gayley Avenue, the roadway provides two travel lanes in each direction with some left- and right-turn channelization and an eastbound bicycle lane.

Sunset Boulevard is an east-west roadway, which traverses from the Pacific Ocean in Pacific Palisades, through West Los Angeles, West Hollywood, Hollywood, and Chinatown. Throughout the Project vicinity, Sunset Boulevard is designated as an Avenue I roadway. Sunset Boulevard forms the northern boundary of the UCLA campus, and typically features two through travel lanes in each direction, with left- and right-turn channelization at major intersections.

Veteran Avenue extends from Sunset Boulevard to south of Pico Boulevard. Veteran Avenue is an Avenue II roadway from Sunset Boulevard to Missouri Avenue, a Collector street from Missouri Avenue to Pico Boulevard, and then a Local street farther south. It is generally striped with one travel lane per direction, with left- and right-turn channelization provided at major intersections. In the vicinity of Wilshire Boulevard, two travel lanes are provided in each direction. Veteran Avenue forms part of the western boundary of UCLA, and is west of the Lot 15 site; however, access to the Lot 15 site is not provided from Veteran Avenue.

Westwood Boulevard/Westwood Plaza is designated an Avenue II roadway from Le Conte Avenue to Wilshire Boulevard, from Wilshire Boulevard to Santa Monica Boulevard the roadway is a Boulevard II, and farther south it continues as an Avenue II roadway. North of Le Conte Avenue, Westwood Boulevard enters the UCLA campus and becomes Westwood Plaza, providing two to three travel lanes in each direction. South of Le Conte Avenue, the roadway has two travel lanes in each direction, except at Wilshire Boulevard where it has three northbound lanes. Northbound and southbound left-turn and right-turn lanes are also provided at some study locations. Weekday peak-period left-turn restrictions are in place for certain northbound and southbound left-turn movements from Westwood Boulevard at Weyburn Avenue, Kinross Avenue, and Lindbrook Drive. On-street parking is permitted on both sides of the roadway. A bicycle lane is provided along Westwood Plaza from Le Conte Avenue to Charles E. Young Drive North. A pedestrian scramble crosswalk is located at this roadway's intersection with Le Conte Avenue.

Weyburn Avenue extends easterly from Veteran Avenue to Le Conte Avenue and is designated as a Local street. It has one to two travel lanes in each direction and westbound left-turn lanes at Veteran Avenue, Gayley Avenue, and Broxton Avenue. A bicycle route is provided between Gayley Avenue and Tiverton Avenue. On-street parking is permitted on some portions of the roadway. A pedestrian scramble crosswalk is located at the Broxton Avenue intersection.

Weyburn Terrace is an internal UCLA roadway that runs parallel to and approximately 250 east of Veteran Avenue. The roadway intersects with Weyburn Avenue at a signalized location, and it provides access to uses in the Southwest Zone both north and south of Weyburn Avenue. Weyburn Terrace forms the western boundary of the Warren Hall site. North of Weyburn Avenue, this roadway provides one-way southbound travel. South of Weyburn Avenue, this roadway provides two-way travel.

Wilshire Boulevard is a major thoroughfare between the City of Santa Monica and Downtown Los Angeles. It is classified a Boulevard II throughout its length in West Los Angeles. Full ramp access to and from the San Diego Freeway is provided via Wilshire Boulevard. In the study area, Wilshire Boulevard typically has three travel lanes in each direction and left-turn channelization. At major intersections, right-turn channelization is also provided. Additionally, the curb lanes east of Veteran Avenue are restricted to bus and right-turn-only operation during

the weekday AM and PM peak periods. West of Veteran Avenue, the curb lanes service freeway interchange traffic.

Existing Public Transportation

The roadways within and around UCLA are served by a variety of bus lines managed by multiple transit operators that include the Los Angeles County Metropolitan Transportation Authority ("Metro"), Santa Monica Big Blue Bus ("BBB"), Culver City Bus, LADOT Commuter Express, Santa Clarita Transit, and the Antelope Valley Transit Authority. Additionally, UCLA runs its own bus network, branded as BruinBus, providing service within the campus and point-to-point connections to off-campus housing and amenities. Los Angeles World Airports and Amtrak also operate bus service near the UCLA campus, which connects to air and rail facilities, respectively. The Westwood/Rancho Park Light Rail Station is located approximately 2.5 miles south of UCLA and provides additional transfer opportunities to other regional destinations. Transit connections in the general vicinity of the Project are shown in Figure 2. The bus lines providing access to the UCLA campus are summarized in Table 3. Table 3 also provides a listing of Development Sites within a "reasonable walking distance" (approximately one-quarter mile) of a stop for each transit line.

Existing Vanpool

UCLA operates more than 148 vanpools that service campus commuters throughout Southern California. Pick-up locations for vanpools are as far north as Lancaster, as far east as Moreno Valley, as far south as Laguna Hills, and as far west as Oxnard.

Existing Bicycle Infrastructure

UCLA has been designated a Bike Friendly University twice by the League of American Bicyclists, receiving Bronze status in 2011 and an upgraded Silver status in 2015. The UCLA campus has over seven miles of bicycle routes, low-cost quarterly bicycle rentals for students, on-site shower facilities, and a bicycle shop located near the center of campus. UCLA also hosts programs to encourage bicycling, such as a bicycle citation diversion program (BruinBikeSmart) and the Earn-A-Bike program, which allows eligible employees to trade in their parking permit for a free bicycle.

Existing Carsharing Services

Carsharing services allow customers to rent a vehicle for an hourly or daily rate, with fuel and insurance costs included in the rental fee. Zipcar is currently the sole carsharing provider for UCLA, with a total of 24 vehicles available at 11 different locations on campus.

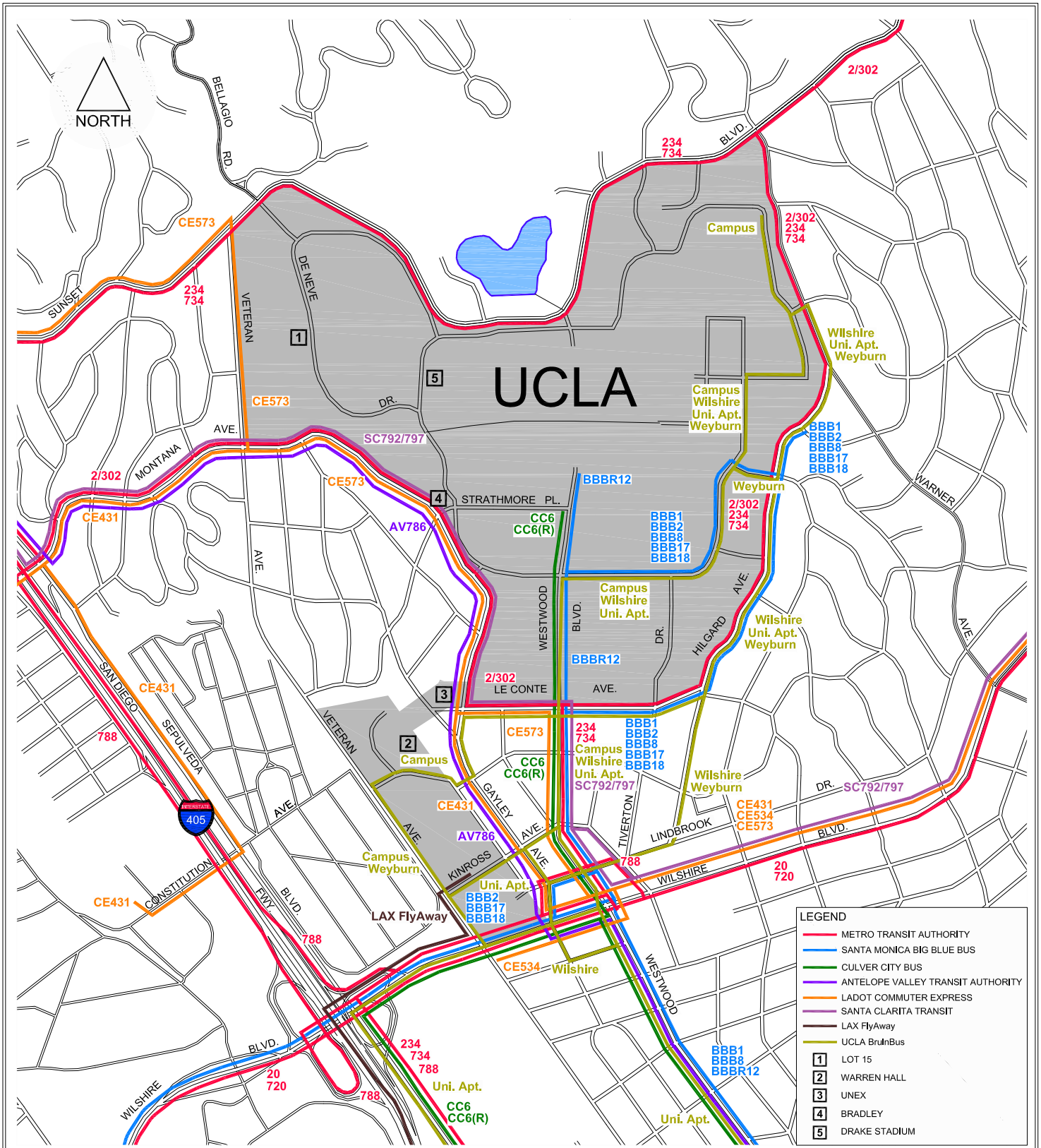

FIGURE 2

7/26/2017

FN: UCLALRDPAmendmentTIS/TRANSIT-NEW

PUBLIC TRANSIT NETWORK

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Table 3
Existing Public Transportation

AGENCY	BUS NUMBER	BEGIN	END	FREQUENCY	COMMENTS	PROXIMATE HOUSING SITES[1]
Metro						
	2	Downtown LA	Pacific Palisades	5-15 min	Runs Everyday	1, 2, 3, 4, 5
	20	Downtown LA	Santa Monica	5-15 min	Runs Everyday	
	234	Westwood	Sylmar	17-20 min	Runs Everyday	2, 3
	302	Downtown LA	Pacific Palisades	20-40 min	Weekdays Only	1, 2, 3, 4, 5
	720	Santa Monica	City of Commerce	2-10 min	Runs Everyday	
	734	West LA	Sylmar	15-20 min	Weekdays Only	2, 3
	788	Arleta	Westwood	15 min	Weekdays Only	
BBB						
	1	Windward Ave & Main St	UCLA @ Hilgard Terminal	10-15 min	Runs Everyday	2, 3
	2	4th St & Civic Center Dr	UCLA @ Hilgard Terminal	15-20 min	Runs Everyday	2, 3
	8	7th St & Olympic Blvd	UCLA @ Hilgard Terminal	12-20 min	Runs Everyday	2, 3
	R12	Westwood Plaza & Strathmore Pl	Overland Ave & Venice Blvd	10-15 min	Runs Everyday	2, 3, 4
	17	Robertson Blvd& Venice Blvd	UCLA @ Parking Lot 2	15-20 min	Runs Everyday	2, 3
	18	Via Marina& Admiralty Way	UCLA @ Hilgard Terminal	20-30 min	Runs Everyday	2, 3
Culver City Bus						
	6	UCLA @ Gateway Plaza	Aviation/LAX Green Line Station	15-20 min	Runs Everyday	2, 3, 4
	R6	UCLA @ Gateway Plaza	Aviation/LAX Green Line Station	15-20 min	Weekdays Only	2, 3, 4
LADOT Commuter Express						
	431	VA Medical Center	LA Union Station	25-30 min	Weekdays Only	4, 5
	534	Wilshire & Veteran	LA Union Station	20-30 min	Weekdays Only	
	573	Constellation Blvd & Century Park East	Granada Hills Park & Ride	10-15 min	Weekdays Only	1, 2, 3, 4, 5
Santa Clarita Transit						
	792	Ave Stanford & Technology Dr	Century Park West & Solar Wy	30 min	Weekdays Only	2, 3, 4, 5
	797	Santa Clarita Metrolink Station	Century Park West & Solar Wy	15-30 min	Weekdays Only	2, 3, 4, 5
Antelope Valley Transit Authority						
	786	Lancaster	Santa Monica Blvd & La Brea Ave	20-30 min	Weekdays Only	1, 2, 3, 4, 5
BruinBus						
	Campus	Weyburn Terrace	Macgowan Hall	8-10 min	Weekdays Only	2, 3, 4
	Wilshire	Wilshire Center	Murphy Hall	8-10 min	Weekdays Only	3, 4
	Weyburn Express	Weyburn Terrace	Murphy Hall	30 min	Mornings Only	2, 3
	University Apartment Shuttle	Campus	Select off campus UCLA apartments	60 min	Weekdays Only	2
	Football Shuttle (Rooter Bus)	Bruin Walk	Rose Bowl Lot B	No Peak-Hour Service	Football Game Service Only	4, 5
	Westwood Shuttle	De Neve Plaza & Hedrick Hall	Tiverton Ave & Le Conte Ave	30 min	Saturdays and Sundays Only	1, 4, 5
	Saturday Shuttle	UCLA @ De Neve	Wilshire Blvd & 3rd St (Santa Monica)	No Peak-Hour Service	Saturdays Only	4, 5
LAX FlyAway						
	Westwood FlyAway	Los Angeles International Airport	UCLA @ Parking Structure 32	60 min	Runs Everyday	2
Amtrak						
	Amtrak Throughway Bus	Various Locations in CA	UCLA @ Parking Structure 32	No Commuting Service	Long Distance Buses Only	4

Notes:
[1] = Proximate Housing Sites are within approximately one-quarter mile of at least one bus stop.
The Housing Site numbers correspond with the following names: 1. Lot 15; 2. Warren Hall; 3. UNEX; 4. Bradley; 5.Drake Stadium.

Bruin Commuter Club

To incentivize ridesharing and active transportation, UCLA students and employees who use an alternative transportation mode can receive commuter benefits by joining the Bruin Commuter Club (BCC). BCC members receive discounted daily parking privileges, commuter rewards from Metro, and emergency ride home services. Those who bike or walk to campus also receive additional mode-specific benefits through BCC. In 2016, the BCC had roughly 5,000 employee members and 400 student members.

Analysis of Existing Traffic Conditions

The 17 study intersections listed below and shown in Figure 1 were analyzed for existing traffic conditions. These locations include key intersections along the primary access routes to and from the Development Sites, and are those locations expected to experience the largest vehicle trip contributions from the proposed Project.

1. Wilshire Boulevard & Sepulveda Boulevard
2. Sunset Boulevard & Bellagio Way/Bellagio Drive
3. Sunset Boulevard & Veteran Avenue
4. Montana Avenue/Gayley Avenue & Veteran Avenue
5. Weyburn Avenue & Veteran Avenue
6. Wilshire Boulevard & Veteran Avenue
7. Strathmore Drive & Gayley Avenue
8. Charles E. Young Drive South & Gayley Avenue
9. Charles E. Young Drive South & Charles E. Young West
10. Le Conte Avenue & Gayley Avenue
11. Weyburn Avenue & Gayley Avenue
12. Wilshire Boulevard & Gayley Avenue/Midvale Avenue
13. Sunset Boulevard & Westwood Plaza
14. Le Conte Avenue & Westwood Plaza/Westwood Boulevard
15. Weyburn Avenue & Westwood Boulevard
16. Wilshire Boulevard & Westwood Boulevard
17. Wilshire Boulevard & Beverly Glen Boulevard

Traffic volumes for existing conditions were obtained from manual traffic counts conducted at the study area intersections. Although UCLA is not required to follow the LADOT *Transportation Impact Study Guidelines* (December 2016), this transportation impact analysis incorporates

these guidelines in the analysis, where applicable. To that end, all intersection traffic counts for this study were completed on a typical weekday during the morning and afternoon peak commute periods, which range from 7:00 AM to 10:00 AM and 3:00 PM to 6:00 PM, respectively. Counts were conducted for study intersections on January 12, 2016, April 26, 2017, and April 27, 2017. Peak-hour volumes were determined individually for each intersection based on the highest-volume four consecutive 15-minute periods for all vehicular movements. An ambient growth rate of one percent was applied to the 2016 counts to develop Existing (2017) traffic conditions. The Existing (2017) AM and PM peak-hour volumes at the study intersections are illustrated in Figures 3(a) and 3(b), respectively. The intersection count data sheets are provided in Attachment A.

Information pertaining to intersection characteristics, such as geometrics, traffic signal operations, and on-street parking restrictions was obtained from field checks and City of Los Angeles engineering plans. The existing lane configurations and traffic control conditions for the study intersections are illustrated in Attachment B.

The analysis of traffic conditions at the study intersections was performed using the Critical Movement Analysis (CMA) methodology, in line with the requirements of the current LADOT *Transportation Impact Study Guidelines* (December 2016). Using the CMA procedures, a determination can be made of the operating characteristics of an intersection in terms of the "Level of Service" for different levels of traffic volume and other variables, such as critical signal phases and the number and type of traffic lanes.

The term "Level of Service" (LOS) describes the quality of traffic flow, ranging from excellent conditions at LOS A to failure conditions at LOS F. LOS D is recognized by the City of Los Angeles, and thereby by UCLA, as an acceptable service level in urban areas. LOS E is recognized by some cities as an acceptable standard in downtown areas, major commercial areas, and at freeway ramp intersections. All CMA/LOS calculations were performed using the standard LADOT LOS Worksheet and are included in Attachment C.

Due to heavy peak-hour congestion in the Westwood area, traffic flow through many of the study intersections is impeded by downstream queuing, which blocks egress at many of the intersections. Following recent traffic studies in the area, adjustments to the CMA intersection capacity values were made to account for this intersection-blocking congestion at the following eight intersections along Westwood Boulevard, Wilshire Boulevard, and Sunset Boulevard:

- Wilshire Boulevard & Sepulveda Boulevard (Intersection 1)
- Sunset Boulevard & Bellagio Way/Bellagio Drive (Intersection 2)
- Sunset Boulevard & Veteran Avenue (Intersection 3)
- Wilshire Boulevard & Veteran Avenue (Intersection 6)

NORTH

7/11/2017

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FIGURE 3(a)

EXISTING (2017) TRAFFIC VOLUMES
AM PEAK HOUR

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FIGURE 3(b)

EXISTING (2017) TRAFFIC VOLUMES
PM PEAK HOUR

7/11/2017

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- Wilshire Boulevard & Gayley Avenue/Midvale Avenue (Intersection 12)
- Sunset Boulevard & Westwood Plaza (Intersection 13)
- Weyburn Avenue & Westwood Boulevard (Intersection 15)
- Wilshire Boulevard & Westwood Boulevard (Intersection 16)

At these intersections, a 25 percent reduction in intersection capacity was applied to account for the reduced number of vehicles able to pass through the intersections during peak hours. Based on information in Circular Number 212, published in 1980 by the Transportation Research Board, the base per-lane capacities used for two-phase, three-phase, and four-phase intersections are 1,500 vehicles per hour (VPH), 1,425 VPH, and 1,375 VPH, respectively. A 25 percent reduction was applied to these values at the above-listed eight study intersections.

Additionally, to account for the pedestrian scramble signal phase, a capacity reduction of 33 percent was applied to the intersection of Le Conte Avenue & Westwood Plaza/Westwood Boulevard (Intersection 14).

The analyses of Existing (2017) AM and PM peak-hour conditions at the study intersections are summarized in Table 4. As shown in Table 4, nine of the study intersections currently operate at excellent to good LOS (i.e., LOS A, B, or C) during both peak hours. The intersection of Wilshire Boulevard & Beverly Glen Boulevard is operating at LOS D, a fair level of service during the AM peak hour and LOS C during the PM Peak hour. The remaining seven study intersections are experiencing poor or failing service levels during one or both peak hours, as follows:

- Wilshire Boulevard & Sepulveda Boulevard (Intersection 1) is at LOS F, a failing service level, during both AM and PM peak hours;
- Sunset Boulevard & Bellagio Way/Bellagio Drive (Intersection 2) is at LOS E, a poor service level, during the AM peak hour and LOS F during the PM peak hour;
- Sunset Boulevard & Veteran Avenue (Intersection 3) is at LOS F during the AM peak hour and LOS E during the PM peak hour;
- Montana Avenue/Gayley Avenue & Veteran Avenue (Intersection 4) is at LOS C, a good service level, during the AM peak hour and LOS F during the PM peak hour;
- Wilshire Boulevard & Veteran Avenue (Intersection 6) is at LOS F during both the AM and PM peak hours;
- Wilshire Boulevard & Gayley Avenue/Midvale Avenue (Intersection 12) is at LOS F during the AM peak hour and LOS E during the PM peak hour; and
- Wilshire Boulevard & Westwood Boulevard (Intersection 16) is at LOS F during the AM peak hour and LOS E during the PM peak hour.

Table 4
Critical Movement Analysis (CMA) & Level of Service (LOS) Summary
Existing (2017) Traffic Conditions

No.	Intersection	Peak Hour	V/C Ratio	LOS
1	Wilshire Boulevard &	AM	1.110	F
	Sepulveda Boulevard*	PM	1.179	F
2	Sunset Boulevard &	AM	0.924	E
	Bellagio Way/Bellagio Drive*	PM	1.073	F
3	Sunset Boulevard &	AM	1.071	F
	Veteran Avenue*	PM	0.951	E
4	Montana Avenue/Gayley Avenue &	AM	0.717	C
	Veteran Avenue	PM	1.003	F
5	Weyburn Avenue &	AM	0.218	A
	Veteran Avenue	PM	0.697	B
6	Wilshire Boulevard &	AM	1.223	F
	Veteran Avenue*	PM	1.132	F
7	Strathmore Drive &	AM	0.334	A
	Gayley Avenue	PM	0.569	A
8	Charles E. Young Drive South &	AM	0.224	A
	Gayley Avenue	PM	0.385	A
9	Charles E. Young Drive South &	AM	0.076	A
	Charles E. Young Drive West	PM	0.228	A
10	Le Conte Avenue &	AM	0.390	A
	Gayley Avenue	PM	0.473	A
11	Weyburn Avenue &	AM	0.402	A
	Gayley Avenue	PM	0.653	B
12	Wilshire Boulevard &	AM	1.013	F
	Gayley Avenue/Midvale Avenue*	PM	0.910	E
13	Sunset Boulevard &	AM	0.791	C
	Westwood Plaza*	PM	0.496	A
14	Le Conte Avenue &	AM	0.671	B
	Westwood Plaza/Westwood Boulevard**	PM	0.647	B
15	Weyburn Avenue &	AM	0.402	A
	Westwood Boulevard*	PM	0.587	A
16	Wilshire Boulevard &	AM	1.006	F
	Westwood Boulevard*	PM	0.924	E
17	Wilshire Boulevard &	AM	0.817	D
	Beverly Glen Boulevard	PM	0.785	C

* Intersection capacity reduced by 25 percent to account for downstream queuing.
** Intersection capacity reduced by 33 percent to account for pedestrian scramble.

The manual traffic counts at the study area intersections included observations of both pedestrian and bicycle traffic. A review of the pedestrian and bicycle traffic volumes indicates that these volumes are highest at the study intersections on the periphery of the UCLA campus (specifically those legs providing access/egress to/from campus) and those within Westwood Village. The north leg of the intersection of Strathmore Drive & Gayley Avenue exhibited the highest pedestrian crossing volumes of any study intersection leg, with 2,617 crossings during the weekday AM peak period (7:00 AM to 10:00 AM) and 2,330 crossings during the PM peak-period (3:00 PM to 6:00 PM). The east and west legs of the intersection of Le Conte Avenue & Westwood Plaza/Westwood Boulevard also displayed high crossing volumes, combining for 1,191 crossings during the AM peak period and 2,146 crossings during the PM peak period. Intersections within Westwood Village, such as Le Conte Avenue & Gayley Avenue, Weyburn Terrace & Gayley Avenue, Wilshire Boulevard & Gayley Avenue/Midvale Avenue, Weyburn Avenue & Westwood Boulevard, and Wilshire Boulevard & Westwood Boulevard, all experienced heavy pedestrian crossings at all intersection legs, especially during the PM peak period. The data also suggest that the Gayley Avenue/Midvale Avenue and Westwood Boulevard corridors are popular routes for bicyclists entering and exiting the UCLA campus. The intersection count data sheets are provided in Attachment A.

UCLA Cordon Count

The 2002 LRDP, as amended in March 2009, identifies the average daily vehicle trips and parking space limits for the campus (139,500 trips and 25,169 parking spaces, respectively). The vehicle trip and parking space limits have not changed since the adoption of the 1990 LRDP, and are identified in the March 2009 LRDP Amendment Final EIR as Programs, Practices, and Procedures (PPs) 4.13-1(a) and 4.13-1(b). To ensure compliance with these limits, UCLA performs a cordon count annually that assesses all vehicle trips generated by the campus over a five-day period. The latest cordon count was conducted in October 2016 (Monday, October 24th, to Friday, October 28th). The count showed that UCLA generated approximately 105,284 average daily trips. This average trip total, which accounts for all trip types including those from ride sharing companies such as Uber and Lyft, is substantially lower than the campus-wide vehicle trip generation limit of 139,500 daily trips. With a 2016 trip level approximately 25 percent below the campus vehicle trip cap, UCLA continues the trend of low overall vehicle trip generation experienced over the past 10 years (with daily trip generation levels approximately 14 to 30 percent below the trip cap).

Proposed Project Trip Generation

All student trip generation rates for the proposed Project were based on 2013 trip generation rates (per person) from the 2008 UCLA Northwest Housing Infill Project and LRDP Amendment Transportation Impact Analysis. From the proposed Project housing data provided by UCLA

staff, students were categorized by their previous housing situation to determine their contribution to the Project trip generation. (See the *Project Description* section and Table 1 above for more details on the variety of housing demographics from which proposed Project inhabitants would be shifted.) Newly-enrolled student categories will generate only positive trip contributions, as students in these categories did not attend UCLA prior to the proposed Project. However, for existing UCLA students returning to live on campus from off-campus housing, there will be both positive and negative trip contributions: positive resident student trip contributions and negative commuter student trip contributions. In other words, existing commuter student trips will be removed (negative contribution) from the surrounding roadway network as those students move back to campus and generate trips as resident students (positive contribution).

Table 5 labels the 1,550 newly-enrolled students as "Resident Students – Undergraduate"; the 1,900 continuing students who currently do not live on campus as both positively generating "Resident Students – Undergraduate" and negatively generating "Commuter Students"; the 1,000 Transfer Students as "Resident Students – Undergraduate"; and the 488 Graduate Students as "Resident Students – Graduate." The 1,962 proposed Project inhabitants who are continuing students who currently live on campus would generate zero new trips, as they are already part of the on-campus student population.

Trip generation estimates for proposed Project employees were initially developed based on two methodologies. The first methodology, similar to that used for the student population, was based on 2013 trip generation rates (per person) from the 2008 UCLA Northwest Housing Infill Project and LRDP Amendment Transportation Impact Analysis. Utilizing "Faculty & Staff – Other University" trip rates from that analysis, average weekday daily and peak-hour trip generation estimates were determined for the approximately 145 total staff members. The second methodology utilized data from a staffing model, provided by UCLA personnel. This model estimated the proposed Project would employ approximately 145 total staff members with the variety of job descriptions detailed in Table 2. Each of these employees was conservatively estimated to make two daily vehicular campus trips (one inbound/one outbound). To determine the number of AM and PM peak-hour trips, staff members were categorized based on their anticipated work schedules. Distinct information on shift start times and schedules was included with the staffing model for some of the projected employees (1 maintenance, 56 custodial, and 45 dining employees). All other employees (22 maintenance, 4 grounds, 5 administrative, 10 residential life, and 2 dining employees) were conservatively assumed to work typical shifts and schedules and potentially arrive during the AM peak hour and depart during the PM peak hour. Based on information from the 2016 UCLA employee SCAQMD[1] travel survey, a 25 percent discount was conservatively taken from the baseline employee trip estimates to account for employees commuting via public transit, walking, and bicycling. The trip generation estimates

[1] South Coast Air Quality Management District

Table 5
Proposed Project Trip Generation Rates and Summary

Land Use	ITE Code	Intensity[2]	Average Weekday	AM Peak Hour[3] In	AM Peak Hour[3] Out	AM Peak Hour[3] Total	PM Peak Hour[3] In	PM Peak Hour[3] Out	PM Peak Hour[3] Total
Trip Generation Rates[1]									
Resident Students - Undergraduate	--	1 pe	0.147	78%	22%	0.002	32%	68%	0.012
Resident Students - Graduate	--	1 pe	0.959	78%	22%	0.091	32%	68%	0.101
Commuter Students	--	1 pe	0.746	78%	22%	0.061	32%	68%	0.071
Trip Generation Summary									
Description		**Size**	**Average Weekday**	**AM Peak Hour In**	**AM Peak Hour Out**	**AM Peak Hour Total**	**PM Peak Hour In**	**PM Peak Hour Out**	**PM Peak Hour Total**
Faculty & Staff (Work Schedule)									
Maintenance Staff (typical)		22 emp	44	22	0	22	0	22	22
Maintenance Staff (atypical [2:00 PM to 11:00 PM])[4]		1 emp	2	0	0	0	0	0	0
Grounds Staff (typical)		4 emp	8	4	0	4	0	4	4
Custodial Staff (typical)		6 emp	12	6	0	6	0	6	6
Custodial Staff (atypical [7:00 AM to 3:30 PM])[5]		35 emp	70	0	0	0	0	0	0
Custodial Staff (atypical [11:00 AM to 7:30 PM])[6]		7 emp	14	0	0	0	0	0	0
Custodial Staff (atypical [2:00 PM to 10:00 PM])[7]		8 emp	16	0	0	0	0	0	0
Administrative Staff (typical)		5 emp	10	5	0	5	0	5	5
Residential Life Staff (typical)		10 emp	20	10	0	10	0	10	10
Dining Staff (atypical [start between 6:30 AM and 7:00 AM])[8]		13 emp	26	0	0	0	0	0	0
Dining Staff (typical [start between 7:30 AM and 9:00 AM])[9]		5 emp	10	5	0	5	0	5	5
Dining Staff (atypical [start between 11:00 AM and 4:00 PM])[10]		22 emp	44	0	0	0	0	0	0
Dining Staff (atypical [start at 6:00 PM])[11]		7 emp	14	0	0	0	7	0	7
Faculty & Staff Subtotal			290	52	0	52	7	52	59
25% Public Transit/Walk/Bicycle Adjustment[12]			(72)	(13)	0	(13)	(2)	(13)	(15)
Faculty & Staff Total			**218**	**39**	**0**	**39**	**5**	**39**	**44**
Students									
Resident Students - Undergraduate (New Students)		1,550 pe	228	2	1	3	6	13	19
Resident Students - Undergraduate (Already On Campus)[13]		1,962 pe	0	0	0	0	0	0	0
Resident Students - Undergraduate (Students Coming Back)		1,900 pe	279	3	1	4	7	16	23
Resident Students - Undergraduate (Transfer Students)		1,000 pe	147	2	0	2	4	8	12
Resident Students - Graduate		488 pe	468	34	10	44	16	33	49
Commuter Students (Students Coming Back)		-1,900 pe	-1,417	-90	-26	-116	-43	-92	-135
Students Total			**-295**	**-49**	**-14**	**-63**	**-10**	**-22**	**-32**
Net Project Trips			**-77**	**-10**	**-14**	**-24**	**-5**	**17**	**12**

Notes:
1) UCLA permit group per-person trip generation rates assumed from the 2008 UCLA NHIP and LRDP Amendment Traffic Impact Analysis (Iteris, October 2008) for all student populations.
2) pe = Person; emp = Employee.
3) Directional distributions (inbound and outbound) assumed to be the same as those for the University/College land use code (LUC 550) from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (9th Edition, 2012), with the independent variable of number of students.
4) With an atypical work schedule starting at 2:00 PM and ending at 11:00 PM, inbound and outbound trips are not anticipated to be completed during the AM and PM peak hours, which fall in the 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM windows.
5) With an atypical work schedule starting at 7:00 AM and ending at 3:30 PM, inbound trips are anticipated to occur before the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur before the PM peak period (4:00 PM to 6:00 PM).
6) With an atypical work schedule starting at 11:00 AM and ending at 7:30 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).
7) With an atypical work schedule starting at 2:00 PM and ending at 10:00 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).
8) With an atypical work schedule starting between 6:30 AM and 7:00 AM, inbound trips are anticipated to occur before the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur before the PM peak period (4:00 PM to 6:00 PM).
9) With a typical work schedule starting between 7:30 AM and 9:00 AM, inbound trips are anticipated to occur during the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur during the PM peak period (4:00 PM to 6:00 PM).
10) With an atypical work schedule starting between 11:00 AM and 4:00 PM, inbound trips are anticipated to occur after the AM peak period (7:00 AM to 9:00 AM) and outbound trips are expected to occur after the PM peak period (4:00 PM to 6:00 PM).
11) With an atypical work schedule starting at 6:00 PM, inbound trips are anticipated to occur during the PM peak period (4:00 PM to 6:00 PM) and outbound trips are expected to occur outside the peak periods.
12) According to the South Coast Air Quality Management District's 2016 survey of UCLA employee travel behavior, over 25 percent of employees utilize commute modes that do not require the use of a passenger vehicle (16.9 percent public transit, 6.9 percent walk, and 1.9 percent bicycle). The assumed travel mode split adjustment of 25 percent conservatively ignores the passenger vehicle trip-reducing effects of the 12.0 percent and 4.3 percent of UCLA employees who carpool and vanpool, respectively, to and from the campus.
13) As these 1,962 students currently live on campus and would be "de-tripled" from more crowded housing, their resident student trips are already included in the baseline condition and would have zero trip generation as part of the Proposed Project.

resulting from the second methodology proved to be more conservative and, therefore, were used in this analysis. Further details on the staff trip assumptions are included in the notes at the bottom of Table 5.

Table 5 displays the vehicular traffic anticipated to be generated by the proposed Project. Overall, the proposed Project is expected to reduce the vehicular activity generated by the UCLA campus by 77 trips on a typical weekday, which equates to an approximate 0.07 percent reduction in trips relative to the 105,284 average weekday daily trips experienced by the campus per the 2016 cordon count. During the AM peak hour, the Project is estimated to eliminate 24 trips, which equates to an approximate 0.31 percent reduction in trips relative to the 7,672 average weekday AM peak-hour trips experienced by the campus per the 2016 cordon count. A net positive trip generation is expected during the PM peak hour, when the proposed Project is estimated to generate 12 additional trips, which equates to an approximate 0.01 percent increase in trips relative to the 8,454 average weekday PM peak-hour trips experienced by the campus per the 2016 cordon count.

Proposed Project Impact Analysis

Per the latest version of the LADOT *Transportation Impact Study Guidelines* (December 2016), a Transportation Impact Study is required when a project is likely to add 43 or more AM or PM peak-hour vehicle trips to the local street system. A Technical Memorandum, which is a significantly scaled-down version of a Transportation Impact Study, is required when a project is likely to add 25 to 42 AM or PM peak-hour vehicle trips. If fewer than 25 trips are projected to be generated by a project, a project is not expected to result in significant transportation impacts to any surrounding intersections or street segments and no analysis is recommended by the LADOT.

The proposed Project is expected to be a net negative trip generator for weekday daily and AM peak-hour trips, and is expected to add only 12 additional trips during the PM peak hour. Therefore, the Project is not expected to result in any significant transportation impacts to surrounding intersections or street segments and no further analysis is warranted or recommended for the Project.

The traffic impact guidelines of the current 2010 Congestion Management Program (CMP) for Los Angeles County require the analysis of all CMP arterial monitoring locations where a project could add a total of 50 or more trips during either peak hour. Additionally, all freeway monitoring locations where a project could add 150 or more trips in either direction during the peak hours are to be analyzed.

The nearest CMP arterial monitoring locations are the intersections of Wilshire Boulevard & Sepulveda Boulevard and Wilshire Boulevard & Beverly Glen Boulevard. Based on a review of

the proposed Project trip generation (shown in Table 5), the Project is expected to contribute minimal traffic volumes to these CMP monitoring intersections during the weekday AM and PM peak hours, when total proposed Project generation is no higher than 12 additional trips (during the PM peak hour). Further, it is expected that proposed Project traffic volume contributions to more distant CMP arterial monitoring locations would be even lower, given that proposed Project traffic would disperse across an increasing number of roadways when farther from the UCLA campus. With proposed Project traffic contributions well below the 50-trip threshold, no significant proposed Project impacts to CMP arterial monitoring locations are forecast and no further CMP analysis of these intersections is warranted.

An examination was also made for the potential of proposed Project-related freeway impacts. The closest CMP freeway monitoring locations are the San Diego Freeway, south of Mulholland Drive, and the San Diego Freeway, north of Venice Boulevard. Based on a review of the proposed Project's trip generation, it is estimated that the proposed Project would contribute well below the 150 directional-trip threshold to all CMP freeway monitoring segments, no significant Project impacts to CMP freeway monitoring locations are forecast, and no additional freeway analysis is necessary.

The local CMP also requires that all projects consider potential transit impacts. As shown in Table 5, the proposed Project trip generation reflects a public transit/walk/bicycle adjustment of 25 percent for the proposed Project's 145 employees. Conservatively assuming that all of these trips are made via public transit, this adjustment amounts to 72 net vehicles reduced by transit per day, including 13 AM peak-hour and 15 PM peak-hour trips. Per the 2010 CMP guidelines, person transit trips can be estimated by multiplying the transit vehicle trip reductions by a conversion factor of 1.4. Therefore, the number of net proposed Project person transit trips would be approximately 101 daily person transit trips, with 18 AM peak-hour and 21 PM peak-hour person transit trips. Based on information from the 2016 UCLA Student Transportation Survey, person transit trips from the proposed Project's student population have conservatively been excluded given that the reduction in person transit trips from the loss of 1,900 commuter students would exceed the gain in person transit trips from the addition of 6,900 resident students. A review of the existing bus transit lines and service summarized in Table 3 indicates that an average of over 100 buses operate during the AM and PM peak hours with bus stops within a reasonable walking distance of the Development Sites. This means that the net proposed Project person trips added to transit would average less than 0.2 persons per bus during the peak hours. This minor addition of proposed Project person trips to transit would not be expected to result in a significant transit impact.

ATTACHMENT A

INTERSECTION TRAFFIC VOLUME COUNTS

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

S Sepulveda Blvd and Wilshire Blvd , Los Angeles

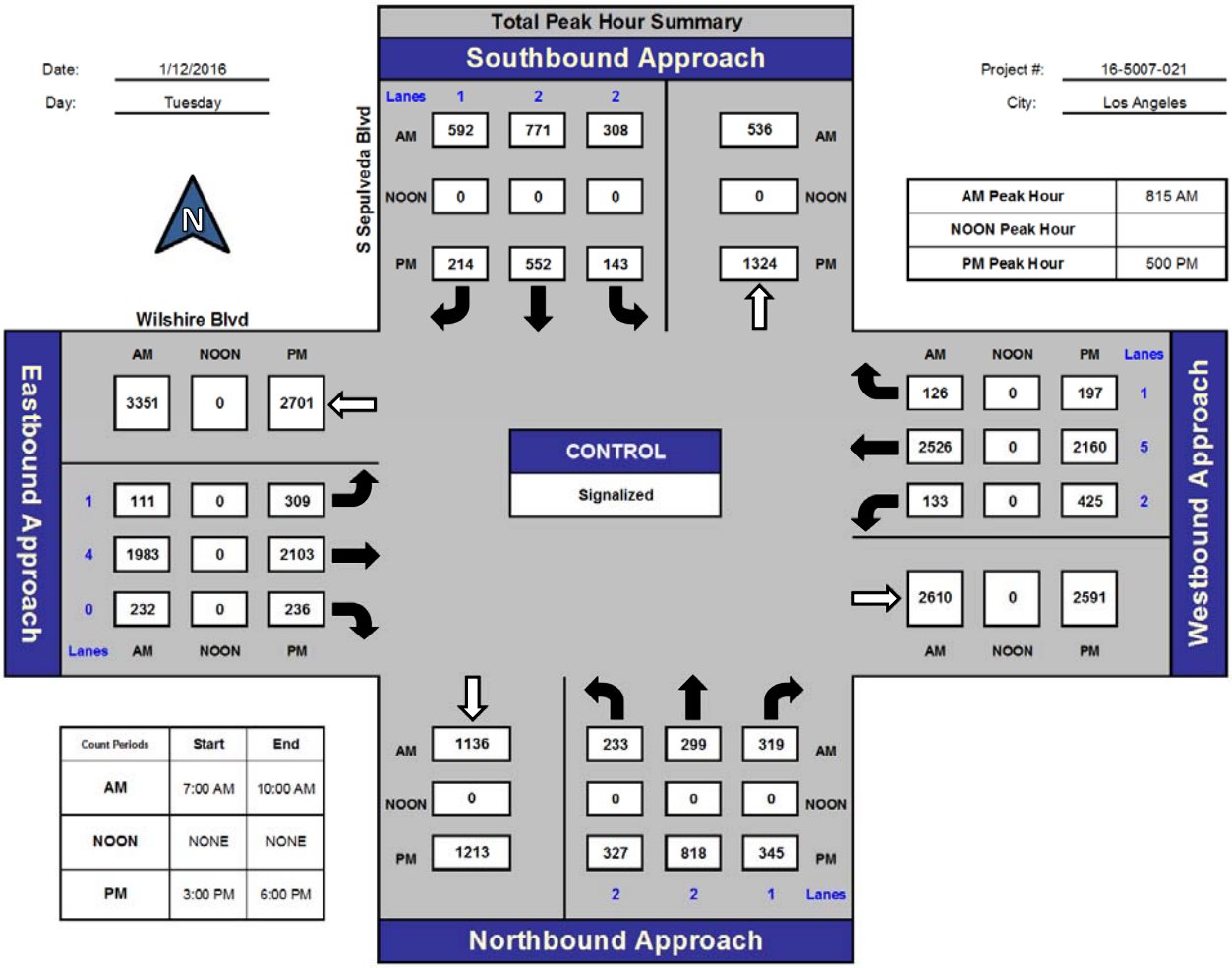
Date: 1/12/2016

Day: Tuesday

Project #: 16-5007-021

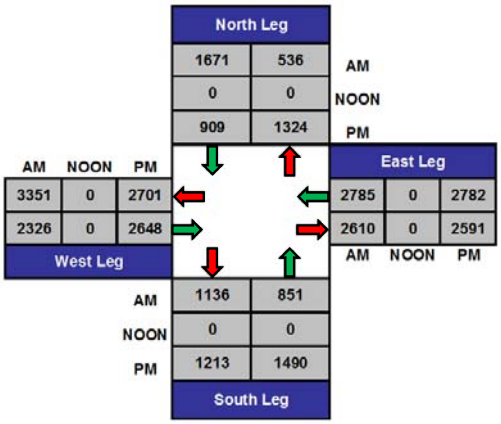
City: Los Angeles

AM Peak Hour	815 AM
NOON Peak Hour	
PM Peak Hour	500 PM

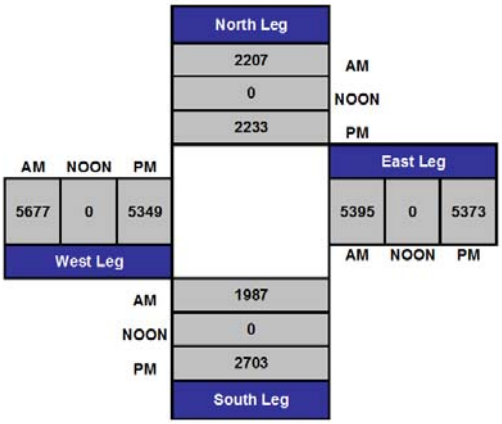


Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-021 **Day:** Tuesday

TOTALS

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	S Sepulveda Blvd			S Sepulveda Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	2	1	1	4	0	2	5	1	
7:00 AM	45	47	41	35	102	56	10	427	31	9	546	39	1388
7:15 AM	59	58	58	38	98	81	14	499	22	18	705	35	1685
7:30 AM	37	71	67	60	109	103	23	621	31	23	682	34	1861
7:45 AM	60	91	73	51	112	126	30	555	39	35	682	42	1896
8:00 AM	60	85	92	69	131	127	41	499	37	32	681	33	1887
8:15 AM	68	81	80	59	149	148	23	486	37	36	616	29	1812
8:30 AM	59	73	86	98	189	160	26	496	71	35	652	39	1984
8:45 AM	66	79	75	73	215	130	29	516	60	34	636	34	1947
9:00 AM	40	66	78	78	218	154	33	485	64	28	622	24	1890
9:15 AM	71	73	82	75	150	121	28	442	42	34	650	26	1794
9:30 AM	52	94	75	67	127	115	30	545	27	25	614	20	1791
9:45 AM	45	95	66	58	152	93	61	455	37	22	647	19	1750
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	662	913	873	761	1752	1414	348	6026	498	331	7733	374	21685
APPROACH %'s :	27.04%	37.30%	35.66%	19.38%	44.61%	36.01%	5.06%	87.69%	7.25%	3.92%	91.64%	4.43%	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	233	299	319	308	771	592	111	1983	232	133	2526	126	7633
PEAK HR FACTOR :		0.929			0.928			0.961			0.959		0.962

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-021 **Day:** Tuesday

City: Los Angeles **Date:** 1/12/2016

TOTALS

PM

NS/EW Streets:	S Sepulveda Blvd			S Sepulveda Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	2	1	1	4	0	2	5	1	
3:00 PM	50	146	49	15	57	25	73	533	35	55	537	72	1647
3:15 PM	61	178	53	32	54	58	66	531	40	50	578	82	1783
3:30 PM	55	160	54	23	83	40	92	628	55	53	548	74	1865
3:45 PM	43	187	77	29	88	39	88	579	44	56	520	40	1790
4:00 PM	58	208	65	19	73	39	82	522	40	53	479	43	1681
4:15 PM	57	179	57	30	125	42	77	550	54	72	544	61	1848
4:30 PM	74	184	69	30	112	35	83	557	50	74	465	47	1780
4:45 PM	79	191	75	34	96	38	67	565	60	97	518	49	1869
5:00 PM	88	203	86	25	118	57	75	526	55	95	537	44	1909
5:15 PM	76	207	110	34	129	56	89	486	47	108	556	40	1938
5:30 PM	75	196	83	47	135	45	71	546	68	117	547	48	1978
5:45 PM	88	212	66	37	170	56	74	545	66	105	520	65	2004
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	804	2251	844	355	1240	530	937	6568	614	935	6349	665	22092
APPROACH %'s :	20.62%	57.73%	21.65%	16.71%	58.35%	24.94%	11.54%	80.90%	7.56%	11.76%	79.87%	8.37%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	327	818	345	143	552	214	309	2103	236	425	2160	197	7829
PEAK HR FACTOR :		0.948			0.864			0.966			0.977		0.977

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-021

Day: Tuesday

CARS

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	S Sepulveda Blvd			S Sepulveda Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	2	1	1	4	0	2	5	1	
7:00 AM	42	44	35	35	101	55	10	418	31	8	522	37	1338
7:15 AM	58	58	54	37	97	80	14	490	22	16	690	34	1650
7:30 AM	35	69	62	59	108	103	22	607	30	19	657	33	1804
7:45 AM	58	91	66	50	109	125	30	544	38	32	665	42	1850
8:00 AM	60	82	86	69	129	125	40	489	37	31	668	33	1849
8:15 AM	68	81	73	58	146	147	23	479	37	35	596	29	1772
8:30 AM	58	72	81	98	188	158	26	487	62	35	631	39	1935
8:45 AM	66	77	66	72	211	130	29	506	57	32	621	34	1901
9:00 AM	38	65	75	76	217	151	33	476	64	27	598	24	1844
9:15 AM	68	72	74	75	147	121	27	433	41	32	631	25	1746
9:30 AM	47	92	70	67	122	113	30	534	27	24	596	20	1742
9:45 AM	41	93	62	57	149	93	58	445	36	22	630	19	1705
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	639	896	804	753	1724	1401	342	5908	482	313	7505	369	21136
APPROACH %'s :	27.32%	38.31%	34.37%	19.42%	44.46%	36.13%	5.08%	87.76%	7.16%	3.82%	91.67%	4.51%	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	230	295	295	304	762	586	111	1948	220	129	2446	126	7452
PEAK HR FACTOR :		0.923			0.930			0.962			0.958		0.963

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-021 **Day:** Tuesday

CARS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	S Sepulveda Blvd			S Sepulveda Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	2	1	1	4	0	2	5	1	
3:00 PM	50	145	48	14	57	24	72	517	33	50	529	72	1611
3:15 PM	61	174	50	32	54	57	66	520	40	49	566	82	1751
3:30 PM	55	157	47	23	81	39	92	613	55	51	537	74	1824
3:45 PM	43	184	73	27	87	39	88	567	42	55	514	39	1758
4:00 PM	58	208	57	17	71	37	82	509	40	50	471	43	1643
4:15 PM	57	177	50	30	124	41	77	538	54	70	538	61	1817
4:30 PM	73	183	61	30	110	35	83	541	49	71	462	47	1745
4:45 PM	79	188	71	34	96	38	67	553	60	95	513	49	1843
5:00 PM	88	200	78	25	118	57	74	514	55	91	528	43	1871
5:15 PM	75	206	106	34	128	56	89	479	47	106	548	40	1914
5:30 PM	74	196	78	46	133	45	71	541	68	116	544	48	1960
5:45 PM	88	212	64	37	166	55	74	540	66	102	513	64	1981
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	801	2230	783	349	1225	523	935	6432	609	906	6263	662	21718
APPROACH %'s :	21.00%	58.47%	20.53%	16.64%	58.42%	24.94%	11.72%	80.64%	7.64%	11.57%	79.98%	8.45%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	325	814	326	142	545	213	308	2074	236	415	2133	195	7726
PEAK HR FACTOR :		0.946			0.872			0.963			0.969		0.975

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-5007-021
N/S Street: S Sepulveda Blvd
E/W Street: Wilshire Blvd
DATE: 1/12/2016 DAY: Tuesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	4	1	0	1	0	0
7:30 AM	0	0	2	1	0	0	0	0
7:45 AM	0	0	0	2	0	0	1	1
8:00 AM	0	1	3	0	0	0	0	0
8:15 AM	0	0	0	3	0	1	0	0
8:30 AM	0	0	7	2	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	1	0	0	0	0	0
9:15 AM	0	0	2	0	2	0	0	0
9:30 AM	0	0	3	0	0	0	1	0
9:45 AM	0	0	1	3	0	0	1	0
TOTALS	**0**	**1**	**23**	**12**	**2**	**2**	**3**	**1**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	0	7	2	0	0	0	0
3:15 PM	0	0	4	2	1	1	0	0
3:30 PM	0	0	3	2	0	0	1	0
3:45 PM	0	0	2	3	1	1	0	0
4:00 PM	0	0	1	3	0	1	0	0
4:15 PM	0	0	1	3	1	0	0	0
4:30 PM	0	0	1	2	0	0	0	0
4:45 PM	0	0	1	0	1	0	0	0
5:00 PM	0	0	2	2	0	1	0	1
5:15 PM	1	0	1	2	0	0	0	0
5:30 PM	0	0	3	1	0	0	0	0
5:45 PM	0	0	1	0	0	0	0	0
TOTALS	**2**	**0**	**27**	**22**	**4**	**4**	**1**	**1**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-021 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	S Sepulveda Blvd			S Sepulveda Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	2	1	1	4	0	2	5	1	
7:00 AM	1	0	0	0	1	0	1	1	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	2	1	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	2
8:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	3
8:45 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
9:00 AM	0	0	0	1	0	0	0	1	0	0	0	0	2
9:15 AM	0	0	0	0	0	0	0	5	0	0	0	0	5
9:30 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
9:45 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	1	0	1	4	0	1	14	1	0	5	0	28
APPROACH %'s :	50.00%	50.00%	0.00%	20.00%	80.00%	0.00%	6.25%	87.50%	6.25%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	0	1	0	1	1	0	0	4	0	0	2	0	9
PEAK HR FACTOR :		0.250			0.500			0.333			0.500		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-021 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	S Sepulveda Blvd			S Sepulveda Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	2	1	1	4	0	2	5	1	
3:00 PM	0	0	0	0	1	1	0	1	0	0	0	0	3
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
3:45 PM	0	3	0	0	0	0	0	1	0	0	0	0	4
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
5:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	2

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	3	0	0	5	1	0	7	0	0	2	0	18
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	83.33%	16.67%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	

PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	0	0	3	0	0	2	0	0	1	0	6
PEAK HR FACTOR :		0.000			0.750			0.500			0.250		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-021 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	S Sepulveda Blvd			S Sepulveda Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	2	1	1	4	0	2	5	1	
7:00 AM	0	0	5	0	0	0	0	3	0	1	6	0	15
7:15 AM	0	0	4	0	0	0	0	5	0	1	6	0	16
7:30 AM	0	0	5	0	0	0	0	3	0	2	10	0	20
7:45 AM	0	0	6	0	0	0	0	3	0	1	9	0	19
8:00 AM	0	0	4	0	0	0	0	3	0	0	5	0	12
8:15 AM	0	0	7	0	0	0	0	4	0	1	10	0	22
8:30 AM	0	0	4	0	0	1	0	4	0	0	8	0	17
8:45 AM	0	0	7	0	0	0	0	3	0	2	8	0	20
9:00 AM	0	0	3	0	0	0	0	5	0	1	11	0	20
9:15 AM	0	0	6	0	0	0	0	3	0	1	7	0	17
9:30 AM	0	0	4	0	0	0	0	3	0	1	8	0	16
9:45 AM	0	0	3	0	0	0	0	4	0	0	8	0	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	58	0	0	1	0	43	0	11	96	0	209
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	10.28%	89.72%	0.00%	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	0	0	21	0	0	1	0	16	0	4	37	0	79
PEAK HR FACTOR :	0.750			0.250			0.800			0.854			0.898

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-021 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	S Sepulveda Blvd			S Sepulveda Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	2	1	1	4	0	2	5	1	
3:00 PM	0	0	1	0	0	0	0	9	0	4	4	0	18
3:15 PM	0	0	3	0	0	0	0	4	0	1	6	0	14
3:30 PM	0	0	6	0	0	0	0	9	0	2	3	0	20
3:45 PM	0	0	4	0	0	0	0	8	0	1	3	0	16
4:00 PM	0	0	6	0	0	0	0	6	0	2	5	0	19
4:15 PM	0	0	7	0	0	1	0	7	0	2	3	0	20
4:30 PM	0	0	7	0	0	0	0	10	0	2	3	0	22
4:45 PM	0	0	4	0	0	0	0	8	0	1	4	0	17
5:00 PM	0	0	6	0	0	0	0	8	0	4	9	1	28
5:15 PM	0	0	4	0	0	0	0	4	0	2	4	0	14
5:30 PM	0	0	4	0	0	0	0	5	0	1	2	0	12
5:45 PM	0	0	2	0	0	0	0	4	0	3	5	0	14
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	54	0	0	1	0	82	0	25	51	1	214
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	32.47%	66.23%	1.30%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	16	0	0	0	0	21	0	10	20	1	68
PEAK HR FACTOR :		0.667			0.000			0.656			0.554		0.607

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-021 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	S Sepulveda Blvd			S Sepulveda Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	2	1	1	4	0	2	5	1	
7:00 AM	3	3	1	0	1	1	0	6	0	0	18	2	35
7:15 AM	1	0	0	1	1	1	0	4	0	1	9	1	19
7:30 AM	2	2	0	1	1	0	1	11	1	2	15	1	37
7:45 AM	2	0	1	1	3	1	0	8	1	2	8	0	27
8:00 AM	0	3	2	0	2	2	1	7	0	1	8	0	26
8:15 AM	0	0	0	1	3	1	0	3	0	0	10	0	18
8:30 AM	1	1	1	0	1	1	0	5	9	0	13	0	32
8:45 AM	0	2	2	1	4	0	0	7	3	0	7	0	26
9:00 AM	2	1	0	2	1	3	0	4	0	0	13	0	26
9:15 AM	3	1	2	0	3	0	1	6	1	1	12	1	31
9:30 AM	5	2	1	0	5	2	0	8	0	0	10	0	33
9:45 AM	4	2	1	1	3	0	3	6	1	0	9	0	30
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	23	17	11	8	28	12	6	75	16	7	132	5	340
APPROACH %'s :	45.10%	33.33%	21.57%	16.67%	58.33%	25.00%	6.19%	77.32%	16.49%	4.86%	91.67%	3.47%	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	3	4	3	4	9	5	0	19	12	0	43	0	102
PEAK HR FACTOR :	0.625			0.750			0.554			0.827			0.797

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-021 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	S Sepulveda Blvd			S Sepulveda Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	2	1	1	4	0	2	5	1	
3:00 PM	0	1	0	1	0	1	1	7	2	1	4	0	18
3:15 PM	0	4	0	0	0	1	0	7	0	0	6	0	18
3:30 PM	0	3	1	0	2	1	0	6	0	0	8	0	21
3:45 PM	0	3	0	2	1	0	0	4	2	0	3	1	16
4:00 PM	0	0	2	2	2	2	0	7	0	1	3	0	19
4:15 PM	0	2	0	0	1	0	0	5	0	0	3	0	11
4:30 PM	1	1	1	0	2	0	0	6	1	1	0	0	13
4:45 PM	0	3	0	0	0	0	0	4	0	1	1	0	9
5:00 PM	0	3	2	0	0	0	1	4	0	0	0	0	10
5:15 PM	1	1	0	0	1	0	0	3	0	0	4	0	10
5:30 PM	1	0	1	1	2	0	0	0	0	0	1	0	6
5:45 PM	0	0	0	0	4	1	0	1	0	0	2	1	9
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	21	7	6	15	6	2	54	5	4	35	2	160
APPROACH %'s :	9.68%	67.74%	22.58%	22.22%	55.56%	22.22%	3.28%	88.52%	8.20%	9.76%	85.37%	4.88%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	2	4	3	1	7	1	1	8	0	0	7	1	35
PEAK HR FACTOR :		0.450			0.450			0.450			0.500		0.875

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Bellagio Way_Bellagio Dr and Sunset Blvd , Los Angeles

Date: 4/27/2017

Day: Thursday

Project #: 17-5253-014

City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	300 PM

Total Peak Hour Summary

Southbound Approach (Bellagio Way_Bellagio Dr)

	Lanes 1	0	1	
AM	302	23	167	268 AM
NOON	0	0	0	0 NOON
PM	319	4	102	421 PM

Eastbound Approach (Sunset Blvd)

Lanes	AM	NOON	PM
	1456	0	1815
1	159	0	287
2	1611	0	822
0	204	0	117

Westbound Approach

Lanes	AM	NOON	PM
0	103	0	86
2	1081	0	1161
1	20	0	11
	1811	0	955

CONTROL: Signalized

Northbound Approach

	1.5	0.5	1 Lanes	
AM	73	6	33	AM
NOON	0	0	0	NOON
PM	335	48	31	PM
	247	0	132	

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
AM	492	268	AM
NOON	0	0	NOON
PM	425	421	PM

West Leg AM	West Leg NOON	West Leg PM	East Leg	East Leg AM	East Leg NOON	East Leg PM
1456	0	1815	1204	0	1258	
1974	0	1226	1811	0	955	

	South Leg	
AM	247	112
NOON	0	0
PM	132	414

Total Volume Per Leg

	North Leg	
AM	760	AM
NOON	0	NOON
PM	846	PM

West Leg AM	West Leg NOON	West Leg PM	East Leg	East Leg AM	East Leg NOON	East Leg PM
3430	0	3041	3015	0	2213	

	South Leg	
AM	359	
NOON	0	
PM	546	

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-014

Day: Thursday

TOTALS

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Bellagio Way_Bellagio Dr			Bellagio Way_Bellagio Dr			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	0.5	1	1	0	1	1	2	0	1	2	0	
7:00 AM	16	5	6	25	12	86	51	245	54	5	215	13	733
7:15 AM	12	0	7	40	8	73	46	292	49	2	229	19	777
7:30 AM	16	0	4	40	7	97	58	367	51	4	238	26	908
7:45 AM	18	0	11	44	9	73	38	408	48	2	242	53	946
8:00 AM	18	4	4	44	3	77	49	401	48	5	277	24	954
8:15 AM	14	1	11	32	6	64	36	404	53	9	295	13	938
8:30 AM	23	1	7	47	5	88	36	398	55	4	267	13	944
8:45 AM	19	0	5	46	7	89	39	381	39	5	273	15	918
9:00 AM	18	0	4	38	11	82	46	416	52	4	266	13	950
9:15 AM	21	2	6	48	9	76	36	324	45	5	242	14	828
9:30 AM	13	1	16	40	17	88	38	369	41	3	274	14	914
9:45 AM	19	0	6	38	7	79	56	356	47	5	273	18	904
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	207	14	87	482	101	972	529	4361	582	53	3091	235	10714
APPROACH %'s :	67.21%	4.55%	28.25%	31.00%	6.50%	62.51%	9.67%	79.70%	10.64%	1.57%	91.48%	6.95%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	73	6	33	167	23	302	159	1611	204	20	1081	103	3782
PEAK HR FACTOR :		0.903			0.879			0.991			0.950		0.991

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-014 **Day:** Thursday

City: Los Angeles **Date:** 4/27/2017

TOTALS

PM

NS/EW Streets:	Bellagio Way_Bellagio Dr			Bellagio Way_Bellagio Dr			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	0.5	1	1	0	1	1	2	0	1	2	0	
3:00 PM	80	3	7	22	1	85	51	232	36	3	347	19	886
3:15 PM	89	8	5	31	0	65	70	188	25	5	287	16	789
3:30 PM	92	10	9	28	1	94	92	221	22	0	251	13	833
3:45 PM	74	27	10	21	2	75	74	181	34	3	276	38	815
4:00 PM	72	17	8	14	1	59	77	166	23	6	281	29	753
4:15 PM	76	21	8	17	0	42	68	154	25	1	276	40	728
4:30 PM	88	22	13	18	0	66	91	134	31	2	231	37	733
4:45 PM	85	28	10	17	2	40	90	169	24	5	234	36	740
5:00 PM	97	38	11	10	1	55	93	204	28	1	259	35	832
5:15 PM	133	35	11	20	1	43	88	146	36	6	235	32	786
5:30 PM	108	24	8	11	1	52	94	166	23	2	259	38	786
5:45 PM	102	31	14	20	1	32	93	187	30	3	239	30	782
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1096	264	114	229	11	708	981	2148	337	37	3175	363	9463
APPROACH %'s :	74.36%	17.91%	7.73%	24.16%	1.16%	74.68%	28.30%	61.97%	9.72%	1.03%	88.81%	10.15%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	335	48	31	102	4	319	287	822	117	11	1161	86	3323
PEAK HR FACTOR :		0.932			0.864			0.915			0.852		0.938

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-014

Day: Thursday

CARS

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Bellagio Way_Bellagio Dr			Bellagio Way_Bellagio Dr			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	0.5	1	1	0	1	1	2	0	1	2	0	
7:00 AM	14	5	6	25	12	86	50	237	52	5	211	13	716
7:15 AM	12	0	7	40	8	72	46	283	48	2	218	19	755
7:30 AM	16	0	4	39	7	96	54	354	51	4	224	25	874
7:45 AM	16	0	11	44	9	71	34	398	48	2	229	53	915
8:00 AM	17	4	3	44	3	76	42	396	47	5	266	24	927
8:15 AM	14	1	11	30	6	61	34	395	53	9	289	12	915
8:30 AM	23	1	7	47	5	82	33	386	54	4	256	13	911
8:45 AM	18	0	5	45	7	87	39	369	39	5	268	15	897
9:00 AM	18	0	4	37	11	82	45	409	52	4	260	11	933
9:15 AM	21	2	6	47	9	76	34	315	43	4	233	14	804
9:30 AM	13	1	16	39	17	86	38	360	41	3	263	14	891
9:45 AM	17	0	6	38	7	78	52	351	47	5	262	17	880
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	199	14	86	475	101	953	501	4253	575	52	2979	230	10418
APPROACH %'s :	66.56%	4.68%	28.76%	31.07%	6.61%	62.33%	9.40%	79.81%	10.79%	1.59%	91.35%	7.05%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	70	6	32	165	23	290	143	1575	202	20	1040	102	3668
PEAK HR FACTOR :		0.871			0.892			0.990			0.937		0.989

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-014 **Day:** Thursday

CARS

City: Los Angeles **Date:** 4/27/2017

PM

NS/EW Streets:	Bellagio Way_Bellagio Dr			Bellagio Way_Bellagio Dr			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	0.5	1	1	0	1	1	2	0	1	2	0	
3:00 PM	79	3	7	22	1	82	51	229	35	3	339	19	870
3:15 PM	89	8	5	31	0	64	69	181	25	5	280	16	773
3:30 PM	91	10	9	28	1	92	92	217	22	0	243	13	818
3:45 PM	73	27	9	21	2	73	74	176	34	3	269	38	799
4:00 PM	72	17	8	14	1	58	77	164	23	5	280	29	748
4:15 PM	76	21	8	17	0	42	67	148	25	1	267	40	712
4:30 PM	86	22	13	18	0	66	90	132	31	2	226	37	723
4:45 PM	84	28	10	16	2	39	90	169	24	5	226	36	729
5:00 PM	97	38	11	10	1	54	93	199	28	1	253	35	820
5:15 PM	133	35	11	18	1	42	88	146	36	6	229	32	777
5:30 PM	108	24	8	11	1	52	94	162	23	2	256	38	779
5:45 PM	101	31	14	20	1	30	93	187	29	3	231	30	770
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1089	264	113	226	11	694	978	2110	335	36	3099	363	9318
APPROACH %'s :	74.28%	18.01%	7.71%	24.27%	1.18%	74.54%	28.57%	61.64%	9.79%	1.03%	88.59%	10.38%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	332	48	30	102	4	311	286	803	116	11	1131	86	3260
PEAK HR FACTOR :		0.932			0.862			0.910			0.850		0.937

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-5253-014
N/S Street: Bellagio Way_Bellagio Dr
E/W Street: Sunset Blvd
DATE: 4/27/2017 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	1	1	0	0	0	0
7:15 AM	0	0	4	2	0	0	0	1
7:30 AM	0	0	4	1	0	0	1	2
7:45 AM	0	0	5	0	0	0	0	1
8:00 AM	0	0	6	2	0	0	1	0
8:15 AM	1	0	2	1	0	0	2	0
8:30 AM	0	2	3	0	0	0	0	2
8:45 AM	0	2	0	1	0	0	1	2
9:00 AM	0	0	8	2	0	0	0	0
9:15 AM	1	2	4	3	0	0	0	1
9:30 AM	0	0	0	2	0	0	0	0
9:45 AM	1	0	2	0	0	0	0	1
TOTALS	**3**	**6**	**39**	**15**	**0**	**0**	**5**	**10**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	1	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	1	0	0	0	0	2
3:15 PM	0	0	1	3	0	0	0	1
3:30 PM	1	1	2	0	0	0	1	1
3:45 PM	0	0	4	1	1	0	0	1
4:00 PM	0	1	5	1	0	0	0	2
4:15 PM	0	0	0	1	0	0	0	1
4:30 PM	1	1	4	3	0	0	1	1
4:45 PM	0	0	5	0	0	0	0	1
5:00 PM	1	1	7	3	0	0	1	1
5:15 PM	0	1	6	0	0	0	0	2
5:30 PM	0	0	5	3	0	0	1	0
5:45 PM	1	0	2	5	0	0	0	0
TOTALS	**4**	**5**	**42**	**20**	**1**	**0**	**4**	**13**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-014 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 4/27/2017

AM

NS/EW Streets:	Bellagio Way_Bellagio Dr			Bellagio Way_Bellagio Dr			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	0.5	1	1	0	1	1	2	0	1	2	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	0	0	0	0	0	0	1	2	0	1	0	5
APPROACH %'s :	100.00%	0.00%	0.00%				0.00%	33.33%	66.67%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	1	0	1	0	3
PEAK HR FACTOR :		0.000			0.000			0.500			0.250		0.375

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-014 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 4/27/2017

PM

NS/EW Streets:	Bellagio Way_Bellagio Dr			Bellagio Way_Bellagio Dr			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	0.5	1	1	0	1	1	2	0	1	2	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	0	0	1	0	0	0	0	0	0	1	0	3
APPROACH %'s :	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%				0.00%	100.00%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	1	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :		0.250			0.000			0.000			0.000		0.250

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-014 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 4/27/2017

AM

NS/EW Streets:	Bellagio Way_Bellagio Dr			Bellagio Way_Bellagio Dr			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	0.5	1	1	0	1	1	2	0	1	2	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
7:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
9:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
9:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
9:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
9:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	9	0	0	8	0	17
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	3	0	0	2	0	5
PEAK HR FACTOR :		0.000			0.000			0.375			0.500		0.625

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-014 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 4/27/2017

PM

NS/EW Streets:	Bellagio Way_Bellagio Dr			Bellagio Way_Bellagio Dr			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	0.5	1	1	0	1	1	2	0	1	2	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
3:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
3:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	9	0	0	9	0	18
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	3	0	0	3	0	6
PEAK HR FACTOR :		0.000			0.000			0.375			0.750		0.500

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-014

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Bellagio Way_Bellagio Dr			Bellagio Way_Bellagio Dr			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	0.5	1	1	0	1	1	2	0	1	2	0	
7:00 AM	2	0	0	0	0	0	1	8	2	0	4	0	17
7:15 AM	0	0	0	0	0	1	0	9	1	0	10	0	21
7:30 AM	0	0	0	1	0	1	4	12	0	0	13	1	32
7:45 AM	2	0	0	0	0	2	4	8	0	0	13	0	29
8:00 AM	1	0	1	0	0	1	7	5	1	0	10	0	26
8:15 AM	0	0	0	2	0	3	2	8	0	0	6	1	22
8:30 AM	0	0	0	0	0	6	3	12	1	0	10	0	32
8:45 AM	1	0	0	1	0	2	0	11	0	0	4	0	19
9:00 AM	0	0	0	1	0	0	1	6	0	0	5	2	15
9:15 AM	0	0	0	1	0	0	2	8	2	1	8	0	22
9:30 AM	0	0	0	1	0	2	0	8	0	0	11	0	22
9:45 AM	2	0	0	0	0	1	4	4	0	0	10	1	22
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	8	0	1	7	0	19	28	99	7	1	104	5	279
APPROACH %'s :	88.89%	0.00%	11.11%	26.92%	0.00%	73.08%	20.90%	73.88%	5.22%	0.91%	94.55%	4.55%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	3	0	1	2	0	12	16	33	2	0	39	1	109
PEAK HR FACTOR :		0.500			0.583			0.797			0.769		0.852

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-014

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 4/27/2017

PM

NS/EW Streets:	Bellagio Way_Bellagio Dr			Bellagio Way_Bellagio Dr			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	0.5	1	1	0	1	1	2	0	1	2	0	
3:00 PM	1	0	0	0	0	3	0	3	1	0	8	0	16
3:15 PM	0	0	0	0	0	1	1	5	0	0	6	0	13
3:30 PM	1	0	0	0	0	2	0	4	0	0	7	0	14
3:45 PM	1	0	1	0	0	2	0	4	0	0	6	0	14
4:00 PM	0	0	0	0	0	1	0	1	0	1	1	0	4
4:15 PM	0	0	0	0	0	0	1	5	0	0	8	0	14
4:30 PM	2	0	0	0	0	0	1	1	0	0	4	0	8
4:45 PM	1	0	0	1	0	1	0	0	0	0	7	0	10
5:00 PM	0	0	0	0	0	1	0	4	0	0	4	0	9
5:15 PM	0	0	0	2	0	1	0	0	0	0	5	0	8
5:30 PM	0	0	0	0	0	0	0	2	0	0	3	0	5
5:45 PM	1	0	0	0	0	2	0	0	1	0	8	0	12
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	7	0	1	3	0	14	3	29	2	1	67	0	127
APPROACH %'s :	87.50%	0.00%	12.50%	17.65%	0.00%	82.35%	8.82%	85.29%	5.88%	1.47%	98.53%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	3	0	1	0	0	8	1	16	1	0	27	0	57
PEAK HR FACTOR :		0.500			0.667			0.750			0.844		0.891

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Veteran Ave and Sunset Blvd , Los Angeles

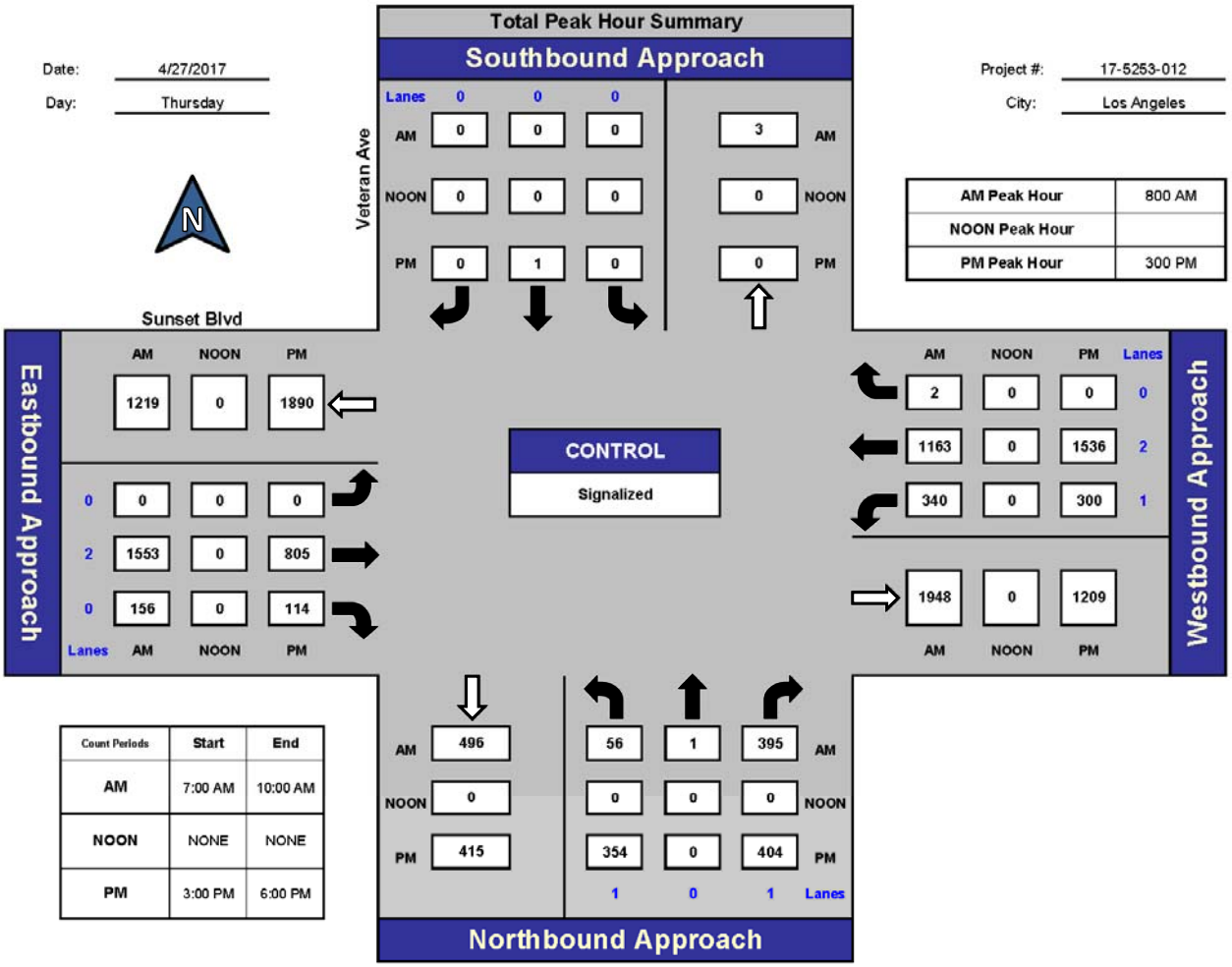
Date: 4/27/2017

Day: Thursday

Project #: 17-5253-012

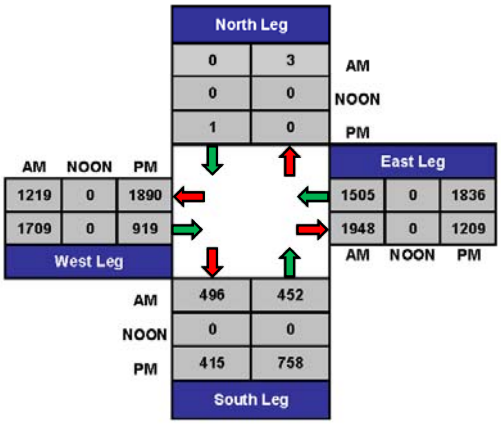
City: Los Angeles

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	300 PM

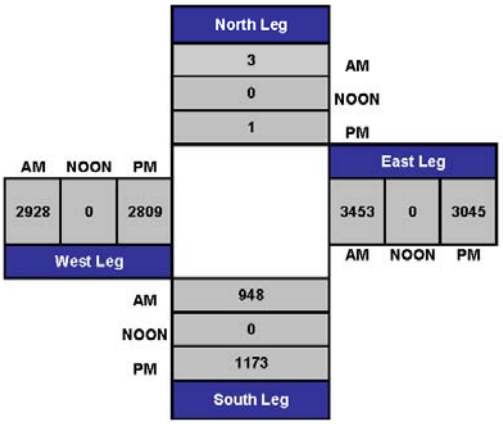


Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-012

Day: Thursday

TOTALS

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
7:00 AM	13	0	49	0	0	0	0	286	32	63	249	0	692
7:15 AM	6	0	72	0	0	0	0	355	39	65	253	0	790
7:30 AM	16	0	104	0	0	0	0	379	24	91	260	0	874
7:45 AM	11	0	109	0	0	0	0	390	47	74	263	0	894
8:00 AM	11	0	116	0	0	0	0	367	41	89	279	0	903
8:15 AM	15	0	102	0	0	0	0	391	41	68	312	2	931
8:30 AM	11	0	85	0	0	0	0	391	39	97	288	0	911
8:45 AM	19	1	92	0	0	0	0	404	35	86	284	0	921
9:00 AM	11	0	99	0	0	0	0	385	32	86	280	0	893
9:15 AM	14	0	56	0	0	0	0	373	46	72	270	0	831
9:30 AM	22	0	72	0	0	0	0	392	48	101	280	0	915
9:45 AM	24	0	67	0	0	0	0	353	26	81	296	0	847
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	173	1	1023	0	0	0	0	4466	450	973	3314	2	10402
APPROACH %'s :	14.45%	0.08%	85.46%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	90.85%	9.15%	22.69%	77.27%	0.05%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	56	1	395	0	0	0	0	1553	156	340	1163	2	3666
PEAK HR FACTOR :		0.890			0.000			0.973			0.977		0.984

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-012

Day: Thursday

TOTALS

City: Los Angeles

Date: 4/27/2017

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	64	0	98	0	0	0	0	205	31	86	420	0	904
3:15 PM	71	0	97	0	0	0	0	202	25	66	392	0	853
3:30 PM	110	0	99	0	1	0	0	239	28	76	354	0	907
3:45 PM	109	0	110	0	0	0	0	159	30	72	370	0	850
4:00 PM	103	0	99	0	0	0	0	165	30	75	319	0	791
4:15 PM	84	0	109	0	0	0	0	149	23	79	329	0	773
4:30 PM	99	0	112	0	0	0	0	138	18	70	304	0	741
4:45 PM	97	0	121	0	0	0	0	186	30	65	313	0	812
5:00 PM	111	0	136	0	0	0	0	187	22	61	355	0	872
5:15 PM	87	0	125	0	0	0	0	139	27	68	341	0	787
5:30 PM	95	0	94	0	0	0	0	185	30	72	332	0	808
5:45 PM	85	0	114	0	0	0	0	191	31	61	311	0	793
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1115	0	1314	0	1	0	0	2145	325	851	4140	0	9891
APPROACH %'s :	45.90%	0.00%	54.10%	0.00%	100.00%	0.00%	0.00%	86.84%	13.16%	17.05%	82.95%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	354	0	404	0	1	0	0	805	114	300	1536	0	3514
PEAK HR FACTOR :		0.865			0.250			0.860			0.907		0.969

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-012

Day: Thursday

CARS

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
7:00 AM	13	0	46	0	0	0	0	278	32	63	243	0	675
7:15 AM	6	0	70	0	0	0	0	342	39	65	242	0	764
7:30 AM	16	0	102	0	0	0	0	366	23	88	244	0	839
7:45 AM	11	0	109	0	0	0	0	376	47	73	248	0	864
8:00 AM	11	0	115	0	0	0	0	356	41	89	271	0	883
8:15 AM	15	0	101	0	0	0	0	383	41	68	303	2	913
8:30 AM	11	0	83	0	0	0	0	377	37	97	272	0	877
8:45 AM	17	1	91	0	0	0	0	394	35	85	276	0	899
9:00 AM	10	0	98	0	0	0	0	376	32	86	272	0	874
9:15 AM	13	0	56	0	0	0	0	364	44	72	263	0	812
9:30 AM	21	0	70	0	0	0	0	384	48	100	265	0	888
9:45 AM	24	0	66	0	0	0	0	343	25	78	285	0	821
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	168	1	1007	0	0	0	0	4339	444	964	3184	2	10109
APPROACH %'s :	14.29%	0.09%	85.63%				0.00%	90.72%	9.28%	23.23%	76.72%	0.05%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	54	1	390	0	0	0	0	1510	154	339	1122	2	3572
PEAK HR FACTOR :		0.883			0.000			0.970			0.981		0.978

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-012

Day: Thursday

CARS

City: Los Angeles

Date: 4/27/2017

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	64	0	97	0	0	0	0	203	30	86	410	0	890
3:15 PM	69	0	97	0	0	0	0	194	25	65	383	0	833
3:30 PM	110	0	99	0	1	0	0	233	28	74	346	0	891
3:45 PM	109	0	109	0	0	0	0	156	29	70	363	0	836
4:00 PM	103	0	99	0	0	0	0	163	29	75	316	0	785
4:15 PM	83	0	107	0	0	0	0	144	23	79	320	0	756
4:30 PM	99	0	112	0	0	0	0	135	18	70	294	0	728
4:45 PM	96	0	119	0	0	0	0	186	30	65	306	0	802
5:00 PM	110	0	135	0	0	0	0	185	22	60	349	0	861
5:15 PM	87	0	125	0	0	0	0	139	27	68	333	0	779
5:30 PM	92	0	94	0	0	0	0	181	30	72	330	0	799
5:45 PM	84	0	113	0	0	0	0	190	31	60	299	0	777
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1106	0	1306	0	1	0	0	2109	322	844	4049	0	9737
APPROACH %'s :	45.85%	0.00%	54.15%	0.00%	100.00%	0.00%	0.00%	86.75%	13.25%	17.25%	82.75%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	352	0	402	0	1	0	0	786	112	295	1502	0	3450
PEAK HR FACTOR :		0.865			0.250			0.860			0.906		0.968

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-5253-012
N/S Street: Veteran Ave
E/W Street: Sunset Blvd
DATE: 4/27/2017 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	1	0	0	0	0
7:15 AM	0	0	3	2	0	0	0	0
7:30 AM	0	0	2	1	0	0	0	0
7:45 AM	0	0	4	1	0	0	0	0
8:00 AM	0	0	2	1	0	0	0	0
8:15 AM	0	0	3	0	0	0	0	0
8:30 AM	0	0	2	2	0	0	0	0
8:45 AM	0	0	1	4	0	0	0	0
9:00 AM	0	0	4	1	0	0	0	0
9:15 AM	0	0	1	1	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	1	0	0	0	0
TOTALS	**0**	**0**	**22**	**15**	**0**	**0**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	1	0	0	0	0	0
3:15 PM	0	0	0	1	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	2	2	0	0	0	0
4:45 PM	0	0	2	0	0	0	0	0
5:00 PM	0	0	2	2	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	2	0	0	0	0
TOTALS	**0**	**0**	**8**	**7**	**0**	**0**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-012 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 4/27/2017

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	3	0	0	2	0	5
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	0	0	1	0	2
PEAK HR FACTOR :		0.000			0.000			0.250			0.250		0.250

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-012 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 4/27/2017

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	1	1	0	2
APPROACH %'s :										50.00%	50.00%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR :		0.000			0.000			0.000			0.250		0.250

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-012

Day: Thursday

BUSES

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	2	0	0	1	0	3
7:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
9:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
9:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
9:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
9:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	9	0	0	8	0	17
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	2	0	0	2	0	4
PEAK HR FACTOR :		0.000			0.000			0.500			0.500		0.500

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-012 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 4/27/2017

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
3:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
3:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	10	0	0	10	0	20
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	4	0	0	3	0	7
PEAK HR FACTOR :		0.000			0.000			0.500			0.750		0.583

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-012

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
7:00 AM	0	0	3	0	0	0	0	8	0	0	6	0	17
7:15 AM	0	0	2	0	0	0	0	13	0	0	10	0	25
7:30 AM	0	0	2	0	0	0	0	11	1	3	15	0	32
7:45 AM	0	0	0	0	0	0	0	13	0	1	14	0	28
8:00 AM	0	0	1	0	0	0	0	11	0	0	8	0	20
8:15 AM	0	0	1	0	0	0	0	7	0	0	9	0	17
8:30 AM	0	0	2	0	0	0	0	14	2	0	15	0	33
8:45 AM	2	0	1	0	0	0	0	9	0	1	7	0	20
9:00 AM	1	0	1	0	0	0	0	8	0	0	7	0	17
9:15 AM	1	0	0	0	0	0	0	8	2	0	6	0	17
9:30 AM	1	0	2	0	0	0	0	7	0	1	15	0	26
9:45 AM	0	0	1	0	0	0	0	9	1	3	10	0	24
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	0	16	0	0	0	0	118	6	9	122	0	276
APPROACH %'s :	23.81%	0.00%	76.19%				0.00%	95.16%	4.84%	6.87%	93.13%	0.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	2	0	5	0	0	0	0	41	2	1	39	0	90
PEAK HR FACTOR :	0.583			0.000			0.672			0.667			0.682

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-012

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 4/27/2017

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	0	0	1	0	0	0	0	2	1	0	10	0	14
3:15 PM	2	0	0	0	0	0	0	6	0	1	8	0	17
3:30 PM	0	0	0	0	0	0	0	5	0	2	7	0	14
3:45 PM	0	0	1	0	0	0	0	2	1	2	6	0	12
4:00 PM	0	0	0	0	0	0	0	2	1	0	3	0	6
4:15 PM	1	0	2	0	0	0	0	4	0	0	8	0	15
4:30 PM	0	0	0	0	0	0	0	2	0	0	9	0	11
4:45 PM	1	0	2	0	0	0	0	0	0	0	6	0	9
5:00 PM	1	0	1	0	0	0	0	1	0	1	4	0	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	7	0	7
5:30 PM	3	0	0	0	0	0	0	2	0	0	2	0	7
5:45 PM	1	0	1	0	0	0	0	0	0	1	11	0	14
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	9	0	8	0	0	0	0	26	3	7	81	0	134
APPROACH %'s :	52.94%	0.00%	47.06%				0.00%	89.66%	10.34%	7.95%	92.05%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	2	0	2	0	0	0	0	15	2	5	31	0	57
PEAK HR FACTOR :	0.500			0.000			0.708			0.900			0.838

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Veteran Ave and Montana Ave , Los Angeles

Date: 1/12/2016

Day: Tuesday

Project #: 16-5007-001

City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Total Peak Hour Summary

Southbound Approach

Lanes	0	1	0		
AM	72	305	171	421	AM
NOON	0	0	0	0	NOON
PM	116	248	67	945	PM

Veteran Ave

Montana Ave

Eastbound Approach

	AM	NOON	PM
	239	0	679
0	161	0	54
1	490	0	143
0	53	0	38
Lanes	AM	NOON	PM

CONTROL

Signalized

Westbound Approach

	AM	NOON	PM	Lanes
	43	0	354	0
	143	0	484	1
	8	0	26	0
	686	0	246	
	AM	NOON	PM	

Northbound Approach

AM	366	24	217	25	AM
NOON	0	0	0	0	NOON
PM	312	79	537	36	PM
		0	1	0	Lanes

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
AM	548	421	AM
NOON	0	0	NOON
PM	431	945	PM

West Leg				East Leg			
AM	NOON	PM		AM	NOON	PM	
239	0	679		194	0	864	
704	0	235		686	0	246	

	South Leg		
AM	366	266	AM
NOON	0	0	NOON
PM	312	652	PM

Total Volume Per Leg

	North Leg	
AM	969	AM
NOON	0	NOON
PM	1376	PM

West Leg			East Leg		
AM	NOON	PM	AM	NOON	PM
943	0	914	880	0	1110

	South Leg	
AM	632	AM
NOON	0	NOON
PM	964	PM

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-001

Day: Tuesday

City: Los Angeles

TOTALS

Date: 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Montana Ave			Montana Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
7:00 AM	4	23	9	43	36	5	18	83	7	8	23	9	268
7:15 AM	6	38	4	42	55	8	21	86	8	2	20	8	298
7:30 AM	5	52	4	44	75	13	33	131	15	1	52	17	442
7:45 AM	6	55	7	47	77	14	40	128	13	1	34	10	432
8:00 AM	4	48	9	32	82	21	52	126	13	5	26	10	428
8:15 AM	9	62	5	48	71	24	36	105	12	1	31	6	410
8:30 AM	11	55	3	69	100	16	39	77	18	3	20	16	427
8:45 AM	5	58	6	38	95	11	36	114	12	5	17	17	414
9:00 AM	7	54	9	44	98	9	40	92	23	3	16	12	407
9:15 AM	4	49	6	44	92	13	29	91	20	3	18	18	387
9:30 AM	7	47	10	36	97	21	38	88	10	3	18	16	391
9:45 AM	2	44	8	41	90	19	32	89	11	7	20	19	382
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	70	585	80	528	968	174	414	1210	162	42	295	158	4686
APPROACH %'s :	9.52%	79.59%	10.88%	31.62%	57.96%	10.42%	23.18%	67.75%	9.07%	8.48%	59.60%	31.92%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	24	217	25	171	305	72	161	490	53	8	143	43	1712
PEAK HR FACTOR :		0.875			0.958			0.921			0.693		0.968

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-001 **Day:** Tuesday

City: Los Angeles **Date:** 1/12/2016

TOTALS

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Montana Ave			Montana Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
3:00 PM	29	78	5	16	61	17	18	35	4	13	103	53	432
3:15 PM	20	89	13	18	55	15	11	27	4	4	86	44	386
3:30 PM	24	104	12	21	62	21	17	27	10	7	127	64	496
3:45 PM	17	114	13	23	50	18	17	27	11	11	83	70	454
4:00 PM	17	130	12	22	45	15	19	36	15	9	109	84	513
4:15 PM	19	135	7	28	39	18	18	26	8	3	121	86	508
4:30 PM	15	113	10	24	45	24	21	31	11	7	96	93	490
4:45 PM	14	143	11	18	53	34	20	35	8	3	97	99	535
5:00 PM	26	132	9	14	68	23	13	31	14	5	117	77	529
5:15 PM	18	140	8	14	58	33	11	41	10	11	126	104	574
5:30 PM	21	122	8	21	69	26	10	36	6	7	144	74	544
5:45 PM	25	135	11	15	60	25	12	35	8	6	95	82	509
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	245	1435	119	234	665	269	187	387	109	86	1304	930	5970
APPROACH %'s :	13.62%	79.77%	6.61%	20.03%	56.93%	23.03%	27.38%	56.66%	15.96%	3.71%	56.21%	40.09%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	79	537	36	67	248	116	54	143	38	26	484	354	2182
PEAK HR FACTOR :		0.970			0.929			0.933			0.896		0.950

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-001 **Day:** Tuesday

CARS

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Montana Ave			Montana Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
7:00 AM	4	23	8	43	36	5	17	82	7	8	22	9	264
7:15 AM	6	36	4	42	53	8	21	83	8	2	17	8	288
7:30 AM	5	52	4	44	74	13	29	128	15	1	49	17	431
7:45 AM	6	55	7	46	74	14	40	125	11	1	33	9	421
8:00 AM	4	48	9	31	82	21	50	124	13	5	25	9	421
8:15 AM	9	62	5	48	71	24	36	103	12	1	26	6	403
8:30 AM	11	54	3	66	99	16	39	76	18	3	19	16	420
8:45 AM	5	57	6	38	95	11	34	110	12	3	15	16	402
9:00 AM	7	50	8	44	98	9	40	90	23	3	16	12	400
9:15 AM	4	48	6	44	91	13	27	90	20	3	13	18	377
9:30 AM	7	45	10	34	95	21	37	87	10	3	16	15	380
9:45 AM	2	43	8	41	90	19	31	88	11	7	19	18	377
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	70	573	78	521	958	174	401	1186	160	40	270	153	4584
APPROACH %'s :	9.71%	79.47%	10.82%	31.52%	57.96%	10.53%	22.95%	67.89%	9.16%	8.64%	58.32%	33.05%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	24	217	25	169	301	72	155	480	51	8	133	41	1676
PEAK HR FACTOR :		0.875			0.948			0.917			0.679		0.972

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-001 **Day:** Tuesday

CARS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Montana Ave			Montana Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
3:00 PM	29	78	4	16	59	17	14	34	4	13	103	53	424
3:15 PM	20	89	13	18	55	15	9	26	4	4	86	43	382
3:30 PM	24	104	12	21	62	21	17	26	10	7	125	64	493
3:45 PM	16	114	13	22	48	18	17	26	10	11	79	68	442
4:00 PM	17	130	12	22	45	13	19	35	15	8	106	83	505
4:15 PM	19	134	7	27	39	18	18	25	8	3	116	86	500
4:30 PM	15	112	10	24	44	24	21	29	11	7	92	93	482
4:45 PM	13	142	11	18	53	34	18	31	8	3	94	99	524
5:00 PM	26	131	9	14	68	23	13	30	14	5	114	77	524
5:15 PM	18	139	8	14	57	33	10	40	10	11	124	104	568
5:30 PM	21	122	8	21	69	26	10	36	6	7	140	74	540
5:45 PM	23	135	11	15	60	25	12	34	8	6	92	82	503
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	241	1430	118	232	659	267	178	372	108	85	1271	926	5887
APPROACH %'s :	13.47%	79.93%	6.60%	20.03%	56.91%	23.06%	27.05%	56.53%	16.41%	3.72%	55.70%	40.58%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	78	534	36	67	247	116	51	137	38	26	472	354	2156
PEAK HR FACTOR :		0.976			0.927			0.942			0.891		0.949

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-5007-001
N/S Street: Veteran Ave
E/W Street: Montana Ave
DATE: 1/12/2016 DAY: Tuesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	4	3	2	0	3	2	1	0
7:15 AM	0	0	2	1	4	4	0	1
7:30 AM	3	10	6	2	3	3	1	1
7:45 AM	1	2	1	6	6	9	1	2
8:00 AM	5	3	2	0	4	2	0	1
8:15 AM	1	2	4	6	4	2	2	2
8:30 AM	2	5	4	1	3	4	0	3
8:45 AM	4	0	5	2	4	2	2	0
9:00 AM	10	0	9	0	2	1	1	0
9:15 AM	6	0	1	2	5	6	1	0
9:30 AM	0	1	3	1	3	0	1	0
9:45 AM	0	1	1	0	7	1	0	1
TOTALS	**36**	**27**	**40**	**21**	**48**	**36**	**10**	**11**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	1	0	0	1	0	0
7:15 AM	0	0	0	0	1	0	0	0
7:30 AM	1	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	2	0	0	0
8:15 AM	1	0	0	0	0	1	0	0
8:30 AM	0	1	1	0	3	0	0	0
8:45 AM	5	0	0	0	0	0	0	0
9:00 AM	3	0	0	0	0	0	0	0
9:15 AM	1	0	0	0	0	0	0	0
9:30 AM	1	0	2	0	2	0	0	0
9:45 AM	1	1	0	0	0	0	0	0
TOTALS	**13**	**2**	**4**	**0**	**8**	**2**	**1**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	2	1	1	8	0	2	1	1
3:15 PM	0	1	1	4	3	3	0	0
3:30 PM	0	2	1	2	4	1	0	1
3:45 PM	1	2	2	2	4	3	1	1
4:00 PM	4	3	0	2	4	5	3	2
4:15 PM	2	34	1	7	2	9	3	1
4:30 PM	9	2	2	2	8	5	2	1
4:45 PM	8	2	3	7	6	8	0	1
5:00 PM	20	3	0	4	6	7	2	3
5:15 PM	2	5	3	9	1	11	3	3
5:30 PM	1	4	3	6	4	5	0	2
5:45 PM	4	3	2	4	8	10	3	0
TOTALS	**53**	**62**	**19**	**57**	**50**	**69**	**18**	**16**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	1	0	0	0	1	0	0
3:15 PM	0	0	0	2	0	1	0	0
3:30 PM	0	1	0	0	0	0	0	1
3:45 PM	0	2	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	1	0	0
4:15 PM	0	0	0	0	1	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	1	2	0	0
5:00 PM	0	1	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	2	0	0
5:30 PM	0	0	0	0	0	1	0	0
5:45 PM	0	0	0	0	0	1	0	0
TOTALS	**1**	**5**	**0**	**2**	**2**	**9**	**0**	**1**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-001 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Montana Ave			Montana Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
7:00 AM	1	0	0	0	0	0	0	0	0	0	3	0	4
7:15 AM	0	1	1	0	0	0	0	1	0	0	0	0	3
7:30 AM	0	0	1	0	1	0	0	2	0	0	0	0	4
7:45 AM	1	0	0	0	0	0	1	2	0	0	0	0	4
8:00 AM	0	0	1	0	1	0	0	1	0	0	0	0	3
8:15 AM	0	0	0	0	1	0	0	3	1	0	0	0	5
8:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	3
8:45 AM	0	0	2	0	0	0	0	8	0	0	0	0	10
9:00 AM	0	0	0	0	0	0	0	2	0	0	6	0	8
9:15 AM	0	0	1	0	0	0	0	3	0	0	0	0	4
9:30 AM	0	0	1	0	0	0	0	2	0	0	0	0	3
9:45 AM	0	0	2	0	0	0	0	2	0	0	1	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	1	9	0	3	0	1	29	1	0	10	0	56
APPROACH %'s :	16.67%	8.33%	75.00%	0.00%	100.00%	0.00%	3.23%	93.55%	3.23%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	1	0	2	0	3	0	1	8	1	0	0	0	16
PEAK HR FACTOR :	0.750			0.750			0.625			0.000			0.800

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-001 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Montana Ave			Montana Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
3:00 PM	0	0	0	0	1	0	0	1	0	2	2	0	6
3:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	4
3:30 PM	0	0	0	0	1	0	0	3	0	1	2	0	7
3:45 PM	0	1	2	0	0	0	0	0	0	1	0	0	4
4:00 PM	0	0	0	0	1	0	0	0	0	1	2	0	4
4:15 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	1	0	0	0	0	0	1	0	0	4	0	6
5:00 PM	0	0	1	0	0	0	0	0	0	0	4	0	5
5:15 PM	0	0	0	0	0	0	0	4	0	2	3	0	9
5:30 PM	0	0	0	0	0	0	0	0	0	0	3	1	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2	3	0	3	0	0	10	0	7	27	1	53
APPROACH %'s :	0.00%	40.00%	60.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	20.00%	77.14%	2.86%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	1	1	0	0	0	0	5	0	2	14	1	24
PEAK HR FACTOR :		0.500			0.000			0.313			0.850		0.667

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-001 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Montana Ave			Montana Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
7:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
7:15 AM	0	0	0	0	0	0	0	3	0	0	3	0	6
7:30 AM	0	0	0	0	0	0	0	3	0	0	2	0	5
7:45 AM	0	0	0	0	0	0	0	3	0	0	1	0	4
8:00 AM	0	0	0	0	0	0	0	2	0	0	1	0	3
8:15 AM	0	0	0	0	0	0	0	2	0	0	5	0	7
8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
8:45 AM	0	0	0	0	0	0	0	4	0	0	2	0	6
9:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
9:15 AM	0	0	0	0	0	0	0	1	0	0	4	0	5
9:30 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
9:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	23	0	0	23	0	46
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	10	0	0	9	0	19
PEAK HR FACTOR :		0.000			0.000			0.833			0.450		0.679

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-001 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Montana Ave			Montana Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
3:45 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
4:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	0	0	0	0	0	2	0	0	2	0	4
4:45 PM	0	0	0	0	0	0	0	3	0	0	3	0	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3
5:15 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	3
5:45 PM	0	0	0	0	0	0	0	1	0	0	3	0	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	10	0	0	24	0	34
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	4	0	0	11	0	15
PEAK HR FACTOR :		0.000			0.000			0.333			0.917		0.625

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-001 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Montana Ave			Montana Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
7:00 AM	0	0	1	0	0	0	1	0	0	0	0	0	2
7:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
7:30 AM	0	0	0	0	1	0	4	0	0	0	1	0	6
7:45 AM	0	0	0	1	3	0	0	0	2	0	0	1	7
8:00 AM	0	0	0	1	0	0	2	0	0	0	0	1	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	1	0	3	1	0	0	0	0	0	0	0	5
8:45 AM	0	1	0	0	0	0	2	0	0	2	0	1	6
9:00 AM	0	4	1	0	0	0	0	1	0	0	0	0	6
9:15 AM	0	1	0	0	1	0	2	0	0	0	1	0	5
9:30 AM	0	2	0	2	2	0	1	0	0	0	0	1	8
9:45 AM	0	1	0	0	0	0	1	0	0	0	0	1	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	12	2	7	10	0	13	1	2	2	2	5	56
APPROACH %'s :	0.00%	85.71%	14.29%	41.18%	58.82%	0.00%	81.25%	6.25%	12.50%	22.22%	22.22%	55.56%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	0	0	2	4	0	6	0	2	0	1	2	17
PEAK HR FACTOR :		0.000			0.375			0.500			0.750		0.607

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-001 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Montana Ave			Montana Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
3:00 PM	0	0	1	0	2	0	4	1	0	0	0	0	8
3:15 PM	0	0	0	0	0	0	2	0	0	0	0	1	3
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	1	0	0	1	2	0	0	0	1	0	2	2	9
4:00 PM	0	0	0	0	0	2	0	1	0	1	0	1	5
4:15 PM	0	1	0	1	0	0	0	1	0	0	4	0	7
4:30 PM	0	1	0	0	1	0	0	0	0	0	2	0	4
4:45 PM	1	1	0	0	0	0	2	1	0	0	0	0	5
5:00 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
5:15 PM	0	1	0	0	1	0	1	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:45 PM	2	0	0	0	0	0	0	0	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	5	1	2	6	2	9	5	1	1	9	4	49
APPROACH %'s :	40.00%	50.00%	10.00%	20.00%	60.00%	20.00%	60.00%	33.33%	6.67%	7.14%	64.29%	28.57%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	1	3	0	0	1	0	3	2	0	0	1	0	11
PEAK HR FACTOR :		0.500			0.250			0.417			0.250		0.550

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Veteran Ave and Weyburn Ave , Los Angeles

Date: 1/12/2016

Day: Tuesday

Project #: 16-5007-010

City: Los Angeles

AM Peak Hour	830 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Total Peak Hour Summary

Southbound Approach

Lanes	0	2	1		
AM	0	707	94	348	AM
NOON	0	0	0	0	NOON
PM	0	413	45	992	PM

Veteran Ave

Weyburn Ave

Eastbound Approach

Lanes	AM	NOON	PM
	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Westbound Approach

Lanes	AM	NOON	PM
0.5	37	0	155
0	0	0	0
1.5	97	0	449
	310	0	186

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Northbound Approach

AM	804	0	311	216
NOON	0	0	0	0
PM	862	0	837	141
Lanes		0	1	1

Total Ins & Outs

	North Leg		
AM	801	348	AM
NOON	0	0	NOON
PM	458	992	PM

West Leg				East Leg		
AM	NOON	PM		AM	NOON	PM
0	0	0		134	0	604
0	0	0		310	0	186

	South Leg	
AM	804	527
NOON	0	0
PM	862	978

Total Volume Per Leg

	North Leg
AM	1149
NOON	0
PM	1450

West Leg			East Leg		
AM	NOON	PM	AM	NOON	PM
0	0	0	444	0	790

	South Leg
AM	1331
NOON	0
PM	1840

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-010 **Day:** Tuesday

TOTALS

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	2	0	0	0	0	1.5	0	0.5	
7:00 AM	0	49	69	13	93	0	0	0	0	17	0	3	244
7:15 AM	0	63	76	19	96	0	0	0	0	30	0	8	292
7:30 AM	0	78	77	15	130	0	0	0	0	30	0	5	335
7:45 AM	0	85	73	19	164	0	0	0	0	38	0	6	385
8:00 AM	0	67	73	15	155	0	0	0	0	25	0	9	344
8:15 AM	0	83	53	21	136	0	0	0	0	23	0	16	332
8:30 AM	0	67	55	24	166	0	0	0	0	32	0	15	359
8:45 AM	0	82	52	29	168	0	0	0	0	22	0	9	362
9:00 AM	0	82	58	22	200	0	0	0	0	27	0	7	396
9:15 AM	0	80	51	19	173	0	0	0	0	16	0	6	345
9:30 AM	0	66	59	22	148	0	0	0	0	27	0	12	334
9:45 AM	0	78	42	19	132	0	0	0	0	19	0	7	297
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	880	738	237	1761	0	0	0	0	306	0	103	4025
APPROACH %'s :	0.00%	54.39%	45.61%	11.86%	88.14%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	74.82%	0.00%	25.18%	
PEAK HR START TIME :	830 AM												TOTAL
PEAK HR VOL :	0	311	216	94	707	0	0	0	0	97	0	37	1462
PEAK HR FACTOR :		0.941			0.902			0.000			0.713		0.923

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-010 **Day:** Tuesday

TOTALS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	2	0	0	0	0	1.5	0	0.5	
3:00 PM	0	152	36	6	99	0	0	0	0	66	0	22	381
3:15 PM	0	142	39	14	96	0	0	0	0	69	0	36	396
3:30 PM	0	151	42	25	108	0	0	0	0	92	0	37	455
3:45 PM	0	171	30	11	103	0	0	0	0	81	0	35	431
4:00 PM	0	208	33	11	75	0	0	0	0	82	0	39	448
4:15 PM	0	202	28	8	94	0	0	0	0	90	0	26	448
4:30 PM	0	171	30	8	69	0	0	0	0	111	0	20	409
4:45 PM	0	225	23	10	89	0	0	0	0	97	0	28	472
5:00 PM	0	203	39	11	110	0	0	0	0	127	0	47	537
5:15 PM	0	215	34	14	101	0	0	0	0	127	0	38	529
5:30 PM	0	192	33	12	112	0	0	0	0	107	0	31	487
5:45 PM	0	227	35	8	90	0	0	0	0	88	0	39	487
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2259	402	138	1146	0	0	0	0	1137	0	398	5480
APPROACH %'s :	0.00%	84.89%	15.11%	10.75%	89.25%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	74.07%	0.00%	25.93%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	837	141	45	413	0	0	0	0	449	0	155	2040
PEAK HR FACTOR :		0.933			0.923			0.000			0.868		0.950

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-010 **Day:** Tuesday

CARS

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	2	0	0	0	0	1.5	0	0.5	
7:00 AM	0	48	68	13	93	0	0	0	0	15	0	3	240
7:15 AM	0	61	76	19	95	0	0	0	0	28	0	8	287
7:30 AM	0	78	77	15	129	0	0	0	0	26	0	5	330
7:45 AM	0	85	73	19	159	0	0	0	0	35	0	6	377
8:00 AM	0	66	73	15	155	0	0	0	0	21	0	9	339
8:15 AM	0	82	53	21	136	0	0	0	0	20	0	16	328
8:30 AM	0	65	55	24	166	0	0	0	0	28	0	15	353
8:45 AM	0	80	52	29	167	0	0	0	0	20	0	9	357
9:00 AM	0	80	56	22	199	0	0	0	0	23	0	7	387
9:15 AM	0	77	51	19	172	0	0	0	0	14	0	6	339
9:30 AM	0	65	59	22	147	0	0	0	0	24	0	12	329
9:45 AM	0	75	41	19	132	0	0	0	0	17	0	7	291
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	862	734	237	1750	0	0	0	0	271	0	103	3957
APPROACH %'s :	0.00%	54.01%	45.99%	11.93%	88.07%	0.00%				72.46%	0.00%	27.54%	
PEAK HR START TIME :	830 AM												TOTAL
PEAK HR VOL :	0	302	214	94	704	0	0	0	0	85	0	37	1436
PEAK HR FACTOR :		0.949			0.903			0.000			0.709		0.928

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-010 **Day:** Tuesday

CARS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	2	0	0	0	0	1.5	0	0.5	
3:00 PM	0	151	36	6	96	0	0	0	0	64	0	21	374
3:15 PM	0	142	39	14	94	0	0	0	0	66	0	35	390
3:30 PM	0	150	42	25	107	0	0	0	0	90	0	37	451
3:45 PM	0	169	30	11	100	0	0	0	0	80	0	34	424
4:00 PM	0	208	33	11	75	0	0	0	0	81	0	38	446
4:15 PM	0	200	27	8	94	0	0	0	0	88	0	26	443
4:30 PM	0	169	29	8	69	0	0	0	0	107	0	20	402
4:45 PM	0	225	23	10	89	0	0	0	0	95	0	28	470
5:00 PM	0	201	39	11	110	0	0	0	0	126	0	47	534
5:15 PM	0	214	34	14	101	0	0	0	0	125	0	37	525
5:30 PM	0	189	33	12	112	0	0	0	0	105	0	31	482
5:45 PM	0	226	35	8	90	0	0	0	0	86	0	39	484
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2244	400	138	1137	0	0	0	0	1113	0	393	5425
APPROACH %'s :	0.00%	84.87%	15.13%	10.82%	89.18%	0.00%				73.90%	0.00%	26.10%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	830	141	45	413	0	0	0	0	442	0	154	2025
PEAK HR FACTOR :		0.930			0.923			0.000			0.861		0.948

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-5007-010
N/S Street: Veteran Ave
E/W Street: Weyburn Ave
DATE: 1/12/2016 DAY: Tuesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	1	5	0	0
7:15 AM	0	0	0	0	4	6	0	0
7:30 AM	0	0	0	0	2	7	0	0
7:45 AM	0	0	0	0	4	7	0	0
8:00 AM	0	0	0	0	4	6	0	0
8:15 AM	0	0	0	0	4	5	0	0
8:30 AM	0	0	0	0	2	5	0	0
8:45 AM	0	0	0	0	5	11	0	0
9:00 AM	0	0	0	0	3	4	0	0
9:15 AM	0	0	0	0	1	7	0	0
9:30 AM	0	0	0	0	2	4	0	0
9:45 AM	0	0	0	0	9	5	0	0
TOTALS	**0**	**0**	**0**	**0**	**41**	**72**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	3	4	0	0
3:15 PM	0	0	0	0	4	1	0	0
3:30 PM	0	1	0	0	2	1	0	0
3:45 PM	0	0	0	0	11	6	0	0
4:00 PM	0	0	0	0	9	1	0	0
4:15 PM	0	0	0	0	5	5	0	0
4:30 PM	0	0	0	0	3	4	0	0
4:45 PM	0	0	0	0	9	11	0	0
5:00 PM	0	0	0	0	8	4	0	0
5:15 PM	0	0	0	0	4	5	0	0
5:30 PM	0	0	0	0	6	4	0	0
5:45 PM	0	0	0	0	10	0	0	0
TOTALS	**0**	**1**	**0**	**0**	**74**	**46**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	1	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	1	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-010

Day: Tuesday

BIKES

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	2	0	0	0	0	1.5	0	0.5	
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	2	0	0	0	0	0	0	1	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
8:00 AM	0	1	0	1	1	0	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
9:00 AM	0	0	0	1	3	0	0	0	0	0	0	0	4
9:15 AM	0	3	0	1	0	0	0	0	0	0	0	0	4
9:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
9:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	6	0	4	13	0	0	0	0	0	0	1	24
APPROACH %'s :	0.00%	100.00%	0.00%	23.53%	76.47%	0.00%				0.00%	0.00%	100.00%	
PEAK HR START TIME :	830 AM												TOTAL
PEAK HR VOL :	0	3	0	2	4	0	0	0	0	0	0	0	9
PEAK HR FACTOR :		0.250			0.375			0.000			0.000		0.563

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-010 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	2	0	0	0	0	1.5	0	0.5	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
3:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	2
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	7	0	0	5	0	0	0	0	0	0	2	14
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%				0.00%	0.00%	100.00%	

PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	3	0	0	2	0	0	0	0	0	0	0	5
PEAK HR FACTOR :		0.750			0.500			0.000			0.000		0.625

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-010 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	2	0	0	0	0	1.5	0	0.5	
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	4	0	0	4
7:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	2
9:00 AM	0	0	0	0	0	0	0	0	0	4	0	0	4
9:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	2
9:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	3
9:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	32	0	0	32
APPROACH %'s :										100.00%	0.00%	0.00%	
PEAK HR START TIME :	830 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	11	0	0	11
PEAK HR FACTOR :		0.000			0.000			0.000			0.688		0.688

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-010 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	2	0	0	0	0	1.5	0	0.5	
3:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
3:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
3:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	20	0	0	20
APPROACH %'s :										100.00%	0.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	6	0	0	6
PEAK HR FACTOR :		0.000			0.000			0.000			0.750		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-010 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	2	0	0	0	0	1.5	0	0.5	
7:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	5	0	0	0	0	1	0	0	6
8:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	2
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	2	0	0	0	0	0	0	0	1	0	0	3
8:45 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
9:00 AM	0	2	2	0	1	0	0	0	0	0	0	0	5
9:15 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
9:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
9:45 AM	0	3	1	0	0	0	0	0	0	0	0	0	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	18	4	0	11	0	0	0	0	3	0	0	36
APPROACH %'s :	0.00%	81.82%	18.18%	0.00%	100.00%	0.00%				100.00%	0.00%	0.00%	
PEAK HR START TIME :	830 AM												TOTAL
PEAK HR VOL :	0	9	2	0	3	0	0	0	0	1	0	0	15
PEAK HR FACTOR :		0.688			0.750			0.000			0.250		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-010 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	1	2	0	0	0	0	1.5	0	0.5	
3:00 PM	0	1	0	0	3	0	0	0	0	0	0	1	5
3:15 PM	0	0	0	0	2	0	0	0	0	1	0	1	4
3:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
3:45 PM	0	2	0	0	3	0	0	0	0	0	0	1	6
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
4:15 PM	0	2	1	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	2	1	0	0	0	0	0	0	2	0	0	5
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	1	2
5:30 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	1	0	0	0	0	0	0	0	1	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	15	2	0	9	0	0	0	0	4	0	5	35
APPROACH %'s :	0.00%	88.24%	11.76%	0.00%	100.00%	0.00%				44.44%	0.00%	55.56%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	7	0	0	0	0	0	0	0	1	0	1	9
PEAK HR FACTOR :		0.583			0.000			0.000			0.500		0.750

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Veteran Ave and Wilshire Blvd , Los Angeles

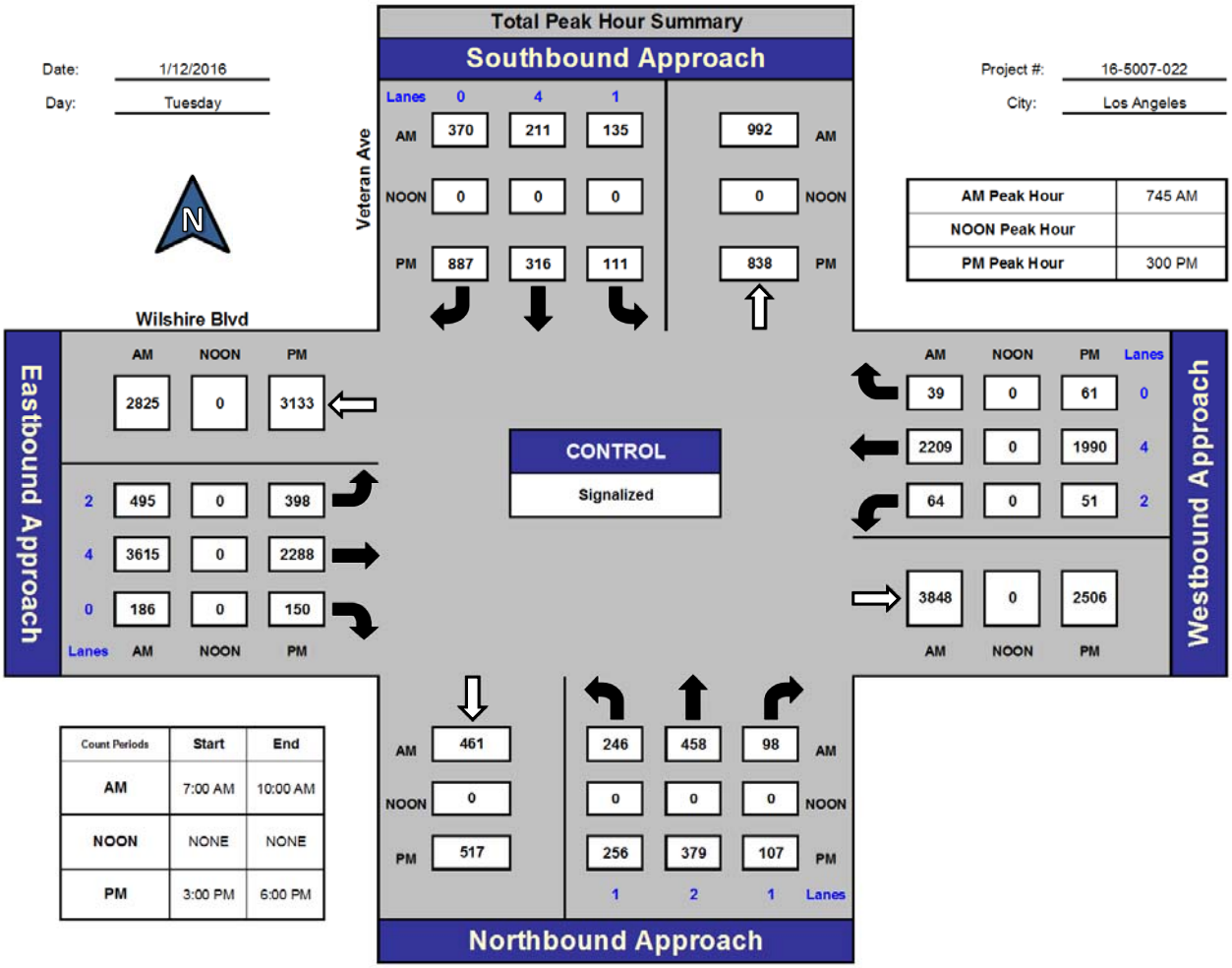
Date: 1/12/2016

Day: Tuesday

Project #: 16-5007-022

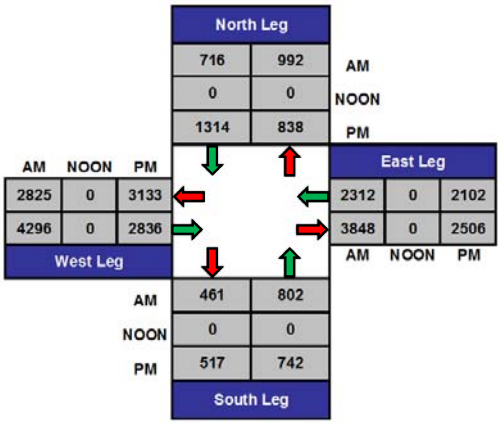
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	300 PM

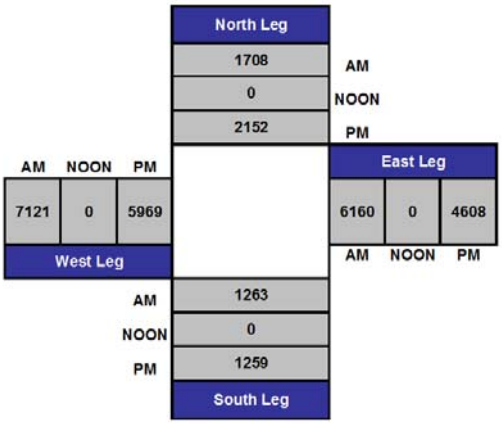


Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-022

Day: Tuesday

City: Los Angeles

TOTALS

Date: 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	4	0	2	4	0	2	4	0	
7:00 AM	31	70	8	12	26	78	97	673	43	8	437	5	1488
7:15 AM	46	75	12	10	39	84	125	699	46	14	585	11	1746
7:30 AM	55	101	14	22	37	95	130	801	47	16	542	13	1873
7:45 AM	50	112	30	42	51	105	141	816	52	13	579	14	2005
8:00 AM	74	121	23	22	45	100	146	916	43	12	547	13	2062
8:15 AM	63	137	22	35	48	72	111	931	43	22	561	5	2050
8:30 AM	59	88	23	36	67	93	97	952	48	17	522	7	2009
8:45 AM	41	111	35	28	58	78	135	870	50	12	526	11	1955
9:00 AM	43	108	21	36	84	88	100	795	64	22	474	8	1843
9:15 AM	64	90	32	33	63	94	93	751	49	18	524	8	1819
9:30 AM	43	103	32	33	58	91	89	817	63	12	522	6	1869
9:45 AM	45	71	30	24	50	78	113	777	58	9	539	12	1806
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	614	1187	282	333	626	1056	1377	9798	606	175	6358	113	22525
APPROACH %'s :	29.48%	56.99%	13.54%	16.53%	31.07%	52.41%	11.69%	83.17%	5.14%	2.63%	95.67%	1.70%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	246	458	98	135	211	370	495	3615	186	64	2209	39	8126
PEAK HR FACTOR :		0.903			0.904			0.972			0.954		0.985

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-022 **Day:** Tuesday

City: Los Angeles **Date:** 1/12/2016

TOTALS

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	4	0	2	4	0	2	4	0	
3:00 PM	51	91	20	27	68	229	99	549	41	15	524	15	1729
3:15 PM	63	91	27	24	73	212	115	589	48	15	543	19	1819
3:30 PM	82	97	35	24	92	232	87	605	33	5	499	9	1800
3:45 PM	60	100	25	36	83	214	97	545	28	16	424	18	1646
4:00 PM	70	129	22	26	88	189	85	472	32	11	349	5	1478
4:15 PM	65	107	32	25	79	198	96	503	25	8	426	12	1576
4:30 PM	55	128	25	16	89	193	69	503	28	11	376	8	1501
4:45 PM	60	142	36	15	105	203	92	498	32	14	456	19	1672
5:00 PM	66	154	33	24	108	197	63	452	23	11	437	13	1581
5:15 PM	57	129	41	16	123	230	78	504	29	20	426	13	1666
5:30 PM	57	137	39	27	118	175	74	476	37	10	389	10	1549
5:45 PM	54	161	28	17	81	165	85	470	25	19	376	13	1494
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	740	1466	363	277	1107	2437	1040	6166	381	155	5225	154	19511
APPROACH %'s :	28.80%	57.07%	14.13%	7.25%	28.97%	63.78%	13.71%	81.27%	5.02%	2.80%	94.42%	2.78%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	256	379	107	111	316	887	398	2288	150	51	1990	61	6994
PEAK HR FACTOR :		0.867			0.944			0.943			0.911		0.961

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-022

Day: Tuesday

CARS

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	4	0	2	4	0	2	4	0	
7:00 AM	29	69	7	12	26	76	95	655	43	8	421	5	1446
7:15 AM	44	75	12	10	38	82	125	680	46	11	569	11	1703
7:30 AM	55	99	14	22	37	92	130	780	47	13	520	13	1822
7:45 AM	49	112	30	42	51	103	140	800	52	10	564	14	1967
8:00 AM	72	121	23	22	45	98	145	900	43	9	531	12	2021
8:15 AM	63	137	22	35	48	71	110	915	43	20	542	3	2009
8:30 AM	58	86	23	36	67	91	95	930	48	13	502	6	1955
8:45 AM	41	108	35	28	58	77	133	850	50	11	512	11	1914
9:00 AM	43	108	21	36	84	86	96	780	63	19	453	8	1797
9:15 AM	64	87	31	33	63	90	91	727	49	17	507	8	1767
9:30 AM	43	103	31	33	57	89	86	799	61	11	497	6	1816
9:45 AM	45	70	30	24	50	77	110	756	56	5	517	11	1751
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	606	1175	279	333	624	1032	1356	9572	601	147	6135	108	21968
APPROACH %'s :	29.42%	57.04%	13.54%	16.74%	31.37%	51.89%	11.76%	83.03%	5.21%	2.30%	96.01%	1.69%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	242	456	98	135	211	363	490	3545	186	52	2139	35	7952
PEAK HR FACTOR :		0.896			0.904			0.970			0.946		0.984

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-022 **Day:** Tuesday

City: Los Angeles **Date:** 1/12/2016

CARS

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	4	0	2	4	0	2	4	0	
3:00 PM	51	91	20	26	67	227	99	536	38	13	511	15	1694
3:15 PM	63	90	25	24	72	209	113	575	48	12	531	18	1780
3:30 PM	82	96	35	24	91	229	87	587	33	3	489	9	1765
3:45 PM	60	100	24	34	82	213	96	529	27	14	410	17	1606
4:00 PM	70	129	22	26	88	187	84	454	31	9	336	5	1441
4:15 PM	65	104	32	25	79	198	96	487	23	7	417	12	1545
4:30 PM	54	128	25	14	88	193	67	479	28	7	362	8	1453
4:45 PM	59	141	36	15	104	201	92	481	32	12	448	19	1640
5:00 PM	66	153	32	24	108	197	61	435	23	9	426	13	1547
5:15 PM	55	128	41	16	123	228	77	492	29	18	418	13	1638
5:30 PM	57	134	39	27	117	173	74	465	36	9	384	10	1525
5:45 PM	54	161	28	17	80	165	85	457	25	18	366	13	1469
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	736	1455	359	272	1099	2420	1031	5977	373	131	5098	152	19103
APPROACH %'s :	28.86%	57.06%	14.08%	7.17%	28.99%	63.84%	13.97%	80.98%	5.05%	2.43%	94.74%	2.82%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	256	377	104	108	312	878	395	2227	146	42	1941	59	6845
PEAK HR FACTOR :		0.865			0.943			0.940			0.910		0.961

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-5007-022
N/S Street: Veteran Ave
E/W Street: Wilshire Blvd
DATE: 1/12/2016 DAY: Tuesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	3	5	4	4	6	0	0	0
7:15 AM	4	3	4	5	9	2	1	2
7:30 AM	1	1	6	2	7	6	3	1
7:45 AM	0	2	8	1	7	3	0	2
8:00 AM	1	1	23	4	9	3	3	2
8:15 AM	1	1	5	0	3	7	0	0
8:30 AM	3	0	12	2	4	5	0	0
8:45 AM	1	0	7	3	4	3	0	0
9:00 AM	0	0	7	4	10	4	0	0
9:15 AM	1	0	3	3	5	6	0	0
9:30 AM	0	0	5	2	9	2	0	0
9:45 AM	1	2	4	3	5	1	0	2
TOTALS	**16**	**15**	**88**	**33**	**78**	**42**	**7**	**9**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	1	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	5	17	3	6	7	0	7
3:15 PM	0	0	6	2	1	5	0	4
3:30 PM	3	1	10	4	4	6	0	1
3:45 PM	0	1	11	5	4	3	2	0
4:00 PM	0	1	10	4	7	1	4	0
4:15 PM	0	1	17	5	3	2	0	2
4:30 PM	3	2	10	4	4	7	1	1
4:45 PM	2	1	8	3	11	3	1	2
5:00 PM	0	2	7	9	10	9	0	1
5:15 PM	0	0	9	5	6	10	0	3
5:30 PM	0	0	8	8	9	6	0	0
5:45 PM	0	0	7	9	9	10	0	0
TOTALS	**9**	**14**	**120**	**61**	**74**	**69**	**8**	**21**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-022

Day: Tuesday

BIKES

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	4	0	2	4	0	2	4	0	
7:00 AM	0	1	0	0	0	0	0	1	1	0	0	0	3
7:15 AM	0	2	0	0	1	0	0	0	0	0	1	0	4
7:30 AM	0	3	0	0	0	1	0	2	0	0	1	0	7
7:45 AM	0	4	1	0	1	0	1	0	0	0	0	0	7
8:00 AM	0	2	1	0	1	0	0	5	0	0	1	0	10
8:15 AM	0	4	0	0	1	0	0	5	0	0	0	0	10
8:30 AM	0	1	1	0	0	0	0	2	0	0	1	0	5
8:45 AM	0	1	0	0	0	0	0	2	0	0	0	0	3
9:00 AM	0	2	0	0	0	0	0	4	0	0	0	0	6
9:15 AM	0	2	0	0	0	0	0	4	0	0	0	0	6
9:30 AM	0	2	0	0	1	0	1	4	0	0	1	0	9
9:45 AM	0	2	1	0	0	1	0	1	0	0	1	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	26	4	0	5	2	2	30	1	0	6	0	76
APPROACH %'s :	0.00%	86.67%	13.33%	0.00%	71.43%	28.57%	6.06%	90.91%	3.03%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	11	3	0	3	0	1	12	0	0	2	0	32
PEAK HR FACTOR :		0.700			0.750			0.650			0.500		0.800

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-022 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	4	0	2	4	0	2	4	0	
3:00 PM	0	0	0	0	5	0	0	1	1	1	0	0	8
3:15 PM	0	0	1	0	3	0	0	0	0	0	0	0	4
3:30 PM	0	1	0	0	5	0	0	3	0	0	2	0	11
3:45 PM	0	0	0	0	2	0	0	0	0	0	2	0	4
4:00 PM	0	3	0	0	2	0	0	0	0	0	3	0	8
4:15 PM	0	2	0	0	1	0	0	1	0	0	0	0	4
4:30 PM	0	1	0	0	4	0	0	2	0	0	0	0	7
4:45 PM	0	2	0	0	1	0	0	1	0	0	1	0	5
5:00 PM	0	2	0	0	4	0	0	1	0	0	0	0	7
5:15 PM	0	2	0	0	4	0	0	0	0	1	0	0	7
5:30 PM	0	0	0	1	4	0	0	1	0	1	0	0	7
5:45 PM	0	2	0	0	3	0	0	2	0	0	1	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	15	1	1	38	0	0	12	1	3	9	0	80
APPROACH %'s :	0.00%	93.75%	6.25%	2.56%	97.44%	0.00%	0.00%	92.31%	7.69%	25.00%	75.00%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	1	1	0	15	0	0	4	1	1	4	0	27
PEAK HR FACTOR :		0.500			0.750			0.417			0.625		0.614

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-022

Day: Tuesday

BUSES

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	4	0	2	4	0	2	4	0	
7:00 AM	0	0	0	0	0	1	0	9	0	0	7	0	17
7:15 AM	0	0	0	0	1	0	0	8	0	3	6	0	18
7:30 AM	0	1	0	0	0	1	0	7	0	3	11	0	23
7:45 AM	0	0	0	0	0	0	0	8	0	3	10	0	21
8:00 AM	0	0	0	0	0	1	0	7	0	3	5	0	16
8:15 AM	0	0	0	0	0	0	1	8	0	2	9	0	20
8:30 AM	0	0	0	0	0	0	0	9	0	4	8	0	21
8:45 AM	0	0	0	0	0	0	0	9	0	1	11	0	21
9:00 AM	0	0	0	0	0	1	0	8	1	3	10	0	23
9:15 AM	0	1	0	0	0	0	0	9	0	1	9	0	20
9:30 AM	0	0	0	0	0	0	1	10	1	1	11	0	24
9:45 AM	0	0	0	0	0	0	0	6	0	3	7	0	16
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2	0	0	1	4	2	98	2	27	104	0	240
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	20.00%	80.00%	1.96%	96.08%	1.96%	20.61%	79.39%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	1	1	32	0	12	32	0	78
PEAK HR FACTOR :		0.000			0.250			0.917			0.846		0.929

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-022 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	4	0	2	4	0	2	4	0	
3:00 PM	0	0	0	0	0	0	0	8	2	2	5	0	17
3:15 PM	0	0	0	0	0	0	0	8	0	3	8	0	19
3:30 PM	0	0	0	0	0	1	0	13	0	1	5	0	20
3:45 PM	0	0	0	0	0	0	0	12	1	2	6	0	21
4:00 PM	0	0	0	0	0	1	1	13	0	2	8	0	25
4:15 PM	0	0	0	0	0	0	0	12	1	1	6	0	20
4:30 PM	0	0	0	0	0	0	0	19	0	3	8	0	30
4:45 PM	0	0	0	0	0	0	0	12	0	2	6	0	20
5:00 PM	0	0	0	0	0	0	0	13	0	2	7	0	22
5:15 PM	0	0	0	0	0	0	0	7	0	2	6	0	15
5:30 PM	0	0	0	0	0	0	0	7	0	1	5	0	13
5:45 PM	0	0	0	0	0	0	0	8	0	1	6	0	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	2	1	132	4	22	76	0	237
APPROACH %'s :				0.00%	0.00%	100.00%	0.73%	96.35%	2.92%	22.45%	77.55%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	41	3	8	24	0	77
PEAK HR FACTOR :		0.000			0.250			0.846			0.727		0.917

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-022 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Veteran Ave			Veteran Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	4	0	2	4	0	2	4	0	
7:00 AM	2	1	1	0	0	1	2	9	0	0	9	0	25
7:15 AM	2	0	0	0	0	2	0	11	0	0	10	0	25
7:30 AM	0	1	0	0	0	2	0	14	0	0	11	0	28
7:45 AM	1	0	0	0	0	2	1	8	0	0	5	0	17
8:00 AM	2	0	0	0	0	1	1	9	0	0	11	1	25
8:15 AM	0	0	0	0	0	1	0	8	0	0	10	2	21
8:30 AM	1	2	0	0	0	2	2	13	0	0	12	1	33
8:45 AM	0	3	0	0	0	1	2	11	0	0	3	0	20
9:00 AM	0	0	0	0	0	1	4	7	0	0	11	0	23
9:15 AM	0	2	1	0	0	4	2	15	0	0	8	0	32
9:30 AM	0	0	1	0	1	2	2	8	1	0	14	0	29
9:45 AM	0	1	0	0	0	1	3	15	2	1	15	1	39
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	8	10	3	0	1	20	19	128	3	1	119	5	317
APPROACH %'s :	38.10%	47.62%	14.29%	0.00%	4.76%	95.24%	12.67%	85.33%	2.00%	0.80%	95.20%	4.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	4	2	0	0	0	6	4	38	0	0	38	4	96
PEAK HR FACTOR :		0.500			0.750			0.700			0.808		0.727

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-022

Day: Tuesday

HEAVY TRUCKS

City: Los Angeles

Date: 1/12/2016

PM

NS/EW Streets:	Veteran Ave			Veteran Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	4	0	2	4	0	2	4	0	
3:00 PM	0	0	0	1	1	2	0	5	1	0	8	0	18
3:15 PM	0	1	2	0	1	3	2	6	0	0	4	1	20
3:30 PM	0	1	0	0	1	2	0	5	0	1	5	0	15
3:45 PM	0	0	1	2	1	1	1	4	0	0	8	1	19
4:00 PM	0	0	0	0	0	1	0	5	1	0	5	0	12
4:15 PM	0	3	0	0	0	0	0	4	1	0	3	0	11
4:30 PM	1	0	0	2	1	0	2	5	0	1	6	0	18
4:45 PM	1	1	0	0	1	2	0	5	0	0	2	0	12
5:00 PM	0	1	1	0	0	0	2	4	0	0	4	0	12
5:15 PM	2	1	0	0	0	2	1	5	0	0	2	0	13
5:30 PM	0	3	0	0	1	2	0	4	1	0	0	0	11
5:45 PM	0	0	0	0	1	0	0	5	0	0	4	0	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	11	4	5	8	15	8	57	4	2	51	2	171
APPROACH %'s :	21.05%	57.89%	21.05%	17.86%	28.57%	53.57%	11.59%	82.61%	5.80%	3.64%	92.73%	3.64%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	2	3	3	4	8	3	20	1	1	25	2	72
PEAK HR FACTOR :		0.417			0.938			0.750			0.778		0.900

CONTROL : Signalized

ITM Peak Hour Summary

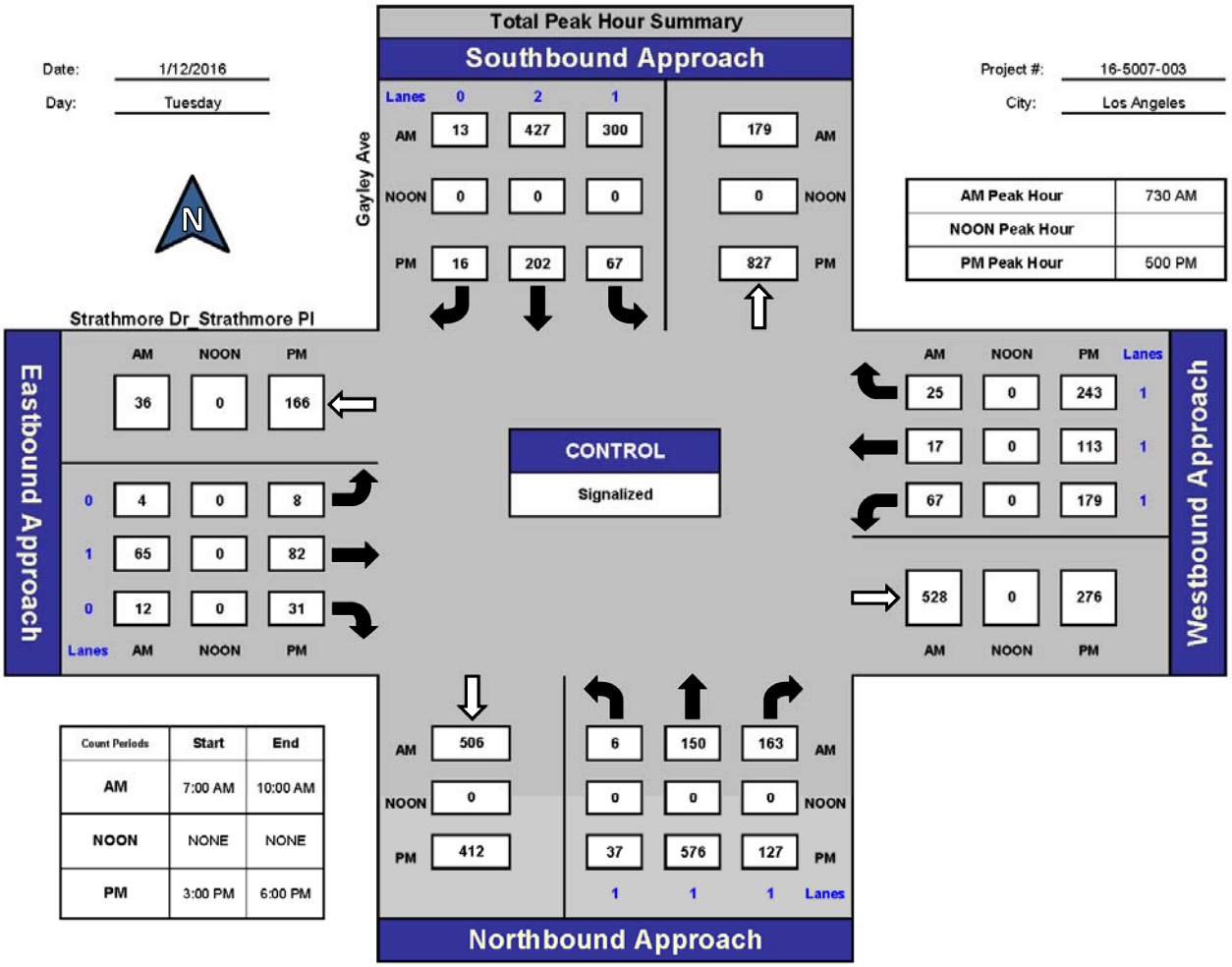
Prepared by:

National Data & Surveying Services

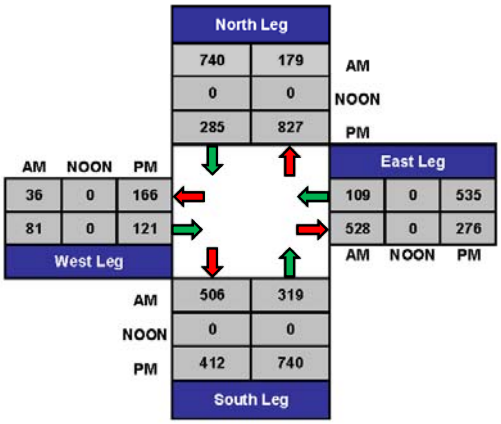
Gayley Ave and Strathmore Dr Strathmore Pl , Los Angeles

Date: 1/12/2016
Day: Tuesday
Project #: 16-5007-003
City: Los Angeles

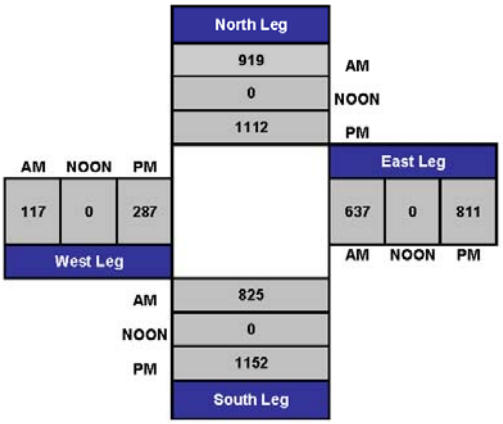
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-003

Day: Tuesday

City: Los Angeles

TOTALS

Date: 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Strathmore Dr_Strathmore Pl			Strathmore Dr_Strathmore Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	0	1	0	1	1	1	
7:00 AM	4	23	38	47	81	1	1	7	2	17	3	9	233
7:15 AM	4	22	40	48	87	4	1	16	8	16	1	8	255
7:30 AM	3	47	33	76	96	4	2	19	5	16	5	8	314
7:45 AM	0	42	52	85	118	6	0	27	1	13	3	6	353
8:00 AM	3	28	48	64	109	2	2	8	3	22	5	8	302
8:15 AM	0	33	30	75	104	1	0	11	3	16	4	3	280
8:30 AM	2	32	33	59	92	5	0	13	4	7	1	3	251
8:45 AM	3	24	30	67	88	11	4	10	9	12	2	7	267
9:00 AM	0	21	31	63	100	3	1	20	5	8	2	4	258
9:15 AM	2	26	31	46	92	12	0	15	14	14	3	2	257
9:30 AM	2	27	29	59	92	5	2	21	6	9	4	9	265
9:45 AM	2	37	36	52	88	6	0	12	7	12	3	7	262
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	25	362	431	741	1147	60	13	179	67	162	36	74	3297
APPROACH %'s :	3.06%	44.25%	52.69%	38.04%	58.88%	3.08%	5.02%	69.11%	25.87%	59.56%	13.24%	27.21%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	6	150	163	300	427	13	4	65	12	67	17	25	1249
PEAK HR FACTOR :		0.848			0.885			0.723			0.779		0.885

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-003

Day: Tuesday

City: Los Angeles

TOTALS

Date: 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Strathmore Dr_Strathmore Pl			Strathmore Dr_Strathmore Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	0	1	0	1	1	1	
3:00 PM	5	105	21	17	45	9	1	13	8	25	12	53	314
3:15 PM	12	102	23	19	38	5	0	3	7	23	16	33	281
3:30 PM	7	129	32	17	40	10	4	11	4	37	26	81	398
3:45 PM	7	105	28	22	40	3	1	9	7	35	14	51	322
4:00 PM	4	134	28	15	53	3	2	13	10	35	22	56	375
4:15 PM	4	139	26	12	40	5	2	16	4	38	17	65	368
4:30 PM	5	147	23	19	44	5	3	10	4	36	8	65	369
4:45 PM	5	142	46	24	49	4	5	18	10	37	15	46	401
5:00 PM	10	147	22	10	45	7	0	12	9	58	25	62	407
5:15 PM	5	160	37	15	49	0	2	14	7	43	34	87	453
5:30 PM	9	131	30	22	53	3	3	27	10	41	30	55	414
5:45 PM	13	138	38	20	55	6	3	29	5	37	24	39	407
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	86	1579	354	212	551	60	26	175	85	445	243	693	4509
APPROACH %'s :	4.26%	78.21%	17.53%	25.76%	66.95%	7.29%	9.09%	61.19%	29.72%	32.22%	17.60%	50.18%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	37	576	127	67	202	16	8	82	31	179	113	243	1681
PEAK HR FACTOR :		0.916			0.880			0.756			0.816		0.928

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-003 **Day:** Tuesday

CARS

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Strathmore Dr_Strathmore Pl			Strathmore Dr_Strathmore Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	0	1	0	1	1	1	
7:00 AM	4	22	35	47	80	1	1	7	2	16	3	9	227
7:15 AM	4	18	39	47	85	3	1	16	8	13	1	7	242
7:30 AM	3	45	33	76	92	4	2	19	5	14	5	7	305
7:45 AM	0	41	51	85	115	6	0	27	1	12	3	4	345
8:00 AM	3	27	47	63	105	2	2	8	3	21	5	8	294
8:15 AM	0	29	29	75	102	1	0	11	3	16	4	3	273
8:30 AM	2	31	33	58	88	5	0	13	4	7	1	3	245
8:45 AM	3	21	30	67	84	11	4	10	9	12	2	7	260
9:00 AM	0	20	28	63	98	3	1	20	5	7	2	4	251
9:15 AM	2	21	28	46	91	12	0	15	12	11	2	2	242
9:30 AM	2	25	27	58	90	5	2	21	6	9	4	8	257
9:45 AM	1	34	34	52	87	6	0	12	7	10	3	7	253
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	24	334	414	737	1117	59	13	179	65	148	35	69	3194
APPROACH %'s :	3.11%	43.26%	53.63%	38.53%	58.39%	3.08%	5.06%	69.65%	25.29%	58.73%	13.89%	27.38%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	6	142	160	299	414	13	4	65	12	63	17	22	1217
PEAK HR FACTOR :		0.837			0.881			0.723			0.750		0.882

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-003 **Day:** Tuesday

CARS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Strathmore Dr_Strathmore Pl			Strathmore Dr_Strathmore Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	0	1	0	1	1	1	
3:00 PM	5	105	21	17	43	9	1	13	8	25	12	53	312
3:15 PM	12	100	23	19	36	5	0	3	7	23	16	33	277
3:30 PM	4	127	31	17	39	10	4	11	4	36	26	81	390
3:45 PM	7	101	28	22	38	3	1	9	6	35	14	50	314
4:00 PM	4	131	28	15	52	3	2	13	10	35	22	55	370
4:15 PM	4	136	26	11	38	5	2	16	4	38	17	65	362
4:30 PM	5	144	23	19	42	5	3	10	4	36	8	64	363
4:45 PM	5	139	46	24	46	4	5	18	10	37	14	46	394
5:00 PM	10	143	22	10	44	7	0	12	9	58	25	62	402
5:15 PM	5	159	37	15	48	0	2	14	7	43	34	87	451
5:30 PM	9	127	30	22	53	3	3	27	10	41	30	55	410
5:45 PM	13	136	37	20	54	6	3	29	5	37	24	39	403
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	83	1548	352	211	533	60	26	175	84	444	242	690	4448
APPROACH %'s :	4.19%	78.06%	17.75%	26.24%	66.29%	7.46%	9.12%	61.40%	29.47%	32.27%	17.59%	50.15%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	37	565	126	67	199	16	8	82	31	179	113	243	1666
PEAK HR FACTOR :		0.905			0.881			0.756			0.816		0.924

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-5007-003
N/S Street: Gayley Ave
E/W Street: Strathmore Dr_Strathmore Pl
DATE: 1/12/2016 DAY: Tuesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0
7:30 AM	2	0	0	0	0	0	0	0
7:45 AM	4	0	0	0	0	0	0	0
8:00 AM	18	2	10	1	4	7	3	5
8:15 AM	22	5	4	2	4	8	7	5
8:30 AM	7	1	6	0	7	6	17	3
8:45 AM	58	3	20	0	11	8	18	11
9:00 AM	16	5	12	2	17	9	16	4
9:15 AM	5	0	12	4	6	5	17	3
9:30 AM	5	1	5	1	5	6	13	5
9:45 AM	5	1	11	3	9	6	7	3
TOTALS	**142**	**18**	**80**	**13**	**63**	**55**	**99**	**39**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	19	1	6	1	2	6	6	1
7:15 AM	23	1	13	2	4	6	0	4
7:30 AM	211	12	27	1	6	10	7	5
7:45 AM	285	1	33	0	6	3	13	8
8:00 AM	34	4	5	1	0	2	1	3
8:15 AM	62	0	12	2	0	2	0	0
8:30 AM	214	2	7	1	4	2	6	2
8:45 AM	259	2	26	2	8	1	6	7
9:00 AM	325	16	6	3	1	0	0	1
9:15 AM	300	22	16	0	6	4	2	0
9:30 AM	296	28	17	1	1	1	0	0
9:45 AM	318	22	31	0	5	2	2	3
TOTALS	**2346**	**111**	**199**	**14**	**43**	**39**	**43**	**34**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	2	6	1	3	13	7	2	0
3:15 PM	0	3	0	4	6	16	6	3
3:30 PM	3	21	3	6	15	21	5	7
3:45 PM	10	6	7	15	33	27	6	1
4:00 PM	2	16	1	1	3	3	0	1
4:15 PM	1	1	0	0	4	3	0	0
4:30 PM	3	4	0	1	5	2	0	0
4:45 PM	5	4	1	0	2	4	0	0
5:00 PM	4	16	0	3	3	3	0	0
5:15 PM	5	13	0	2	0	0	2	0
5:30 PM	4	8	0	1	1	2	1	0
5:45 PM	9	6	0	0	3	5	1	0
TOTALS	**48**	**104**	**13**	**36**	**88**	**93**	**23**	**12**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	46	70	0	19	15	15	2	2
3:15 PM	59	111	8	36	11	38	3	1
3:30 PM	136	137	8	21	6	4	2	13
3:45 PM	76	107	15	7	5	9	0	3
4:00 PM	21	134	1	27	23	30	7	15
4:15 PM	20	87	2	23	20	34	9	6
4:30 PM	41	59	15	11	42	34	6	6
4:45 PM	66	87	7	23	33	42	13	7
5:00 PM	17	161	6	47	38	44	3	23
5:15 PM	54	129	9	33	45	38	27	15
5:30 PM	72	129	7	28	41	67	8	11
5:45 PM	163	196	7	34	41	45	19	10
TOTALS	**771**	**1407**	**85**	**309**	**320**	**400**	**99**	**112**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-003 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Strathmore Dr_Strathmore Pl			Strathmore Dr_Strathmore Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	0	1	0	1	1	1	
7:00 AM	0	0	1	0	0	0	0	1	0	0	0	0	2
7:15 AM	0	0	1	0	0	0	0	2	0	0	0	0	3
7:30 AM	0	1	0	1	1	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	1	2	0	0	10	0	0	0	0	13
8:00 AM	0	0	1	1	0	0	0	4	0	0	0	0	6
8:15 AM	0	0	0	3	3	0	0	1	0	0	2	0	9
8:30 AM	0	0	0	2	0	0	0	1	0	0	1	0	4
8:45 AM	0	1	0	3	1	0	0	4	0	1	1	0	11
9:00 AM	0	2	0	4	0	0	0	3	0	0	0	0	9
9:15 AM	0	0	0	1	1	0	0	4	0	0	0	0	6
9:30 AM	0	0	1	0	3	0	0	6	0	0	0	0	10
9:45 AM	0	0	1	5	0	0	1	8	0	0	2	0	17
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	4	5	21	11	0	1	44	0	1	6	0	93
APPROACH %'s :	0.00%	44.44%	55.56%	65.63%	34.38%	0.00%	2.22%	97.78%	0.00%	14.29%	85.71%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	1	1	6	6	0	0	15	0	0	2	0	31
PEAK HR FACTOR :		0.500			0.500			0.375			0.250		0.596

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-003 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Strathmore Dr_Strathmore Pl			Strathmore Dr_Strathmore Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	0	1	0	1	1	1	
3:00 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
3:15 PM	0	0	0	0	0	0	0	4	0	0	1	0	5
3:30 PM	1	0	0	0	0	0	0	1	0	2	3	0	7
3:45 PM	0	0	0	2	0	0	0	2	0	0	3	0	7
4:00 PM	1	0	0	0	0	0	0	0	0	1	4	1	7
4:15 PM	0	1	0	1	0	0	0	2	0	1	0	0	5
4:30 PM	0	2	0	0	1	0	0	0	0	0	4	1	8
4:45 PM	0	3	0	1	0	0	0	5	0	0	0	0	9
5:00 PM	2	5	0	0	0	0	0	1	0	1	4	0	13
5:15 PM	0	2	0	0	1	0	0	1	0	0	1	0	5
5:30 PM	0	0	0	0	3	0	0	2	0	1	2	0	8
5:45 PM	0	0	1	0	0	0	0	4	0	0	4	0	9
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	13	1	4	5	0	0	23	0	6	28	2	86
APPROACH %'s :	22.22%	72.22%	5.56%	44.44%	55.56%	0.00%	0.00%	100.00%	0.00%	16.67%	77.78%	5.56%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	2	7	1	0	4	0	0	8	0	2	11	0	35
PEAK HR FACTOR :		0.357			0.333			0.500			0.650		0.673

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-003

Day: Tuesday

BUSES

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Strathmore Dr_Strathmore Pl			Strathmore Dr_Strathmore Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	0	1	0	1	1	1	
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
7:15 AM	0	4	0	0	2	0	0	0	0	0	0	0	6
7:30 AM	0	2	0	0	4	0	0	0	0	0	0	0	6
7:45 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
8:00 AM	0	1	0	0	3	0	0	0	0	0	0	0	4
8:15 AM	0	4	0	0	2	0	0	0	0	0	0	0	6
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
8:45 AM	0	1	0	0	3	0	0	0	0	0	0	0	4
9:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
9:15 AM	0	3	1	0	1	0	0	0	0	0	0	0	5
9:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
9:45 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	22	1	0	23	0	0	0	0	0	0	0	46
APPROACH %'s :	0.00%	95.65%	4.35%	0.00%	100.00%	0.00%							
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	8	0	0	11	0	0	0	0	0	0	0	19
PEAK HR FACTOR :		0.500			0.688			0.000			0.000		0.792

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-003 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Strathmore Dr_Strathmore Pl			Strathmore Dr_Strathmore Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	0	1	0	1	1	1	
3:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
3:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
3:30 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
3:45 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	3	0	0	2	0	0	0	0	0	0	0	5
4:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	6
5:00 PM	0	4	0	0	1	0	0	0	0	0	0	0	5
5:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
5:30 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	24	0	0	12	0	0	0	0	0	0	0	36
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%							
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	10	0	0	3	0	0	0	0	0	0	0	13
PEAK HR FACTOR :		0.625			0.750			0.000			0.000		0.650

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-003 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Strathmore Dr_Strathmore Pl			Strathmore Dr_Strathmore Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	0	1	0	1	1	1	
7:00 AM	0	0	3	0	0	0	0	0	0	1	0	0	4
7:15 AM	0	0	1	1	0	1	0	0	0	3	0	1	7
7:30 AM	0	0	0	0	0	0	0	0	0	2	0	1	3
7:45 AM	0	0	1	0	1	0	0	0	0	1	0	2	5
8:00 AM	0	0	1	1	1	0	0	0	0	1	0	0	4
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	1	3	0	0	0	0	0	0	0	4
8:45 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
9:00 AM	0	1	3	0	0	0	0	0	0	1	0	0	5
9:15 AM	0	2	2	0	0	0	0	0	2	3	1	0	10
9:30 AM	0	0	2	1	1	0	0	0	0	0	0	1	5
9:45 AM	1	1	2	0	0	0	0	0	0	2	0	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	6	16	4	7	1	0	0	2	14	1	5	57
APPROACH %'s :	4.35%	26.09%	69.57%	33.33%	58.33%	8.33%	0.00%	0.00%	100.00%	70.00%	5.00%	25.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	0	3	1	2	0	0	0	0	4	0	3	13
PEAK HR FACTOR :	0.750			0.375			0.000			0.583			0.650

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-003 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Strathmore Dr_Strathmore Pl			Strathmore Dr_Strathmore Pl			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	0	1	0	1	1	1	
3:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
3:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
3:30 PM	3	0	1	0	0	0	0	0	0	1	0	0	5
3:45 PM	0	2	0	0	1	0	0	0	1	0	0	1	5
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	3
4:15 PM	0	2	0	1	2	0	0	0	0	0	0	0	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	7	2	1	6	0	0	0	1	1	1	3	25
APPROACH %'s :	25.00%	58.33%	16.67%	14.29%	85.71%	0.00%	0.00%	0.00%	100.00%	20.00%	20.00%	60.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	1	1	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :		0.500			0.000			0.000			0.000		0.500

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

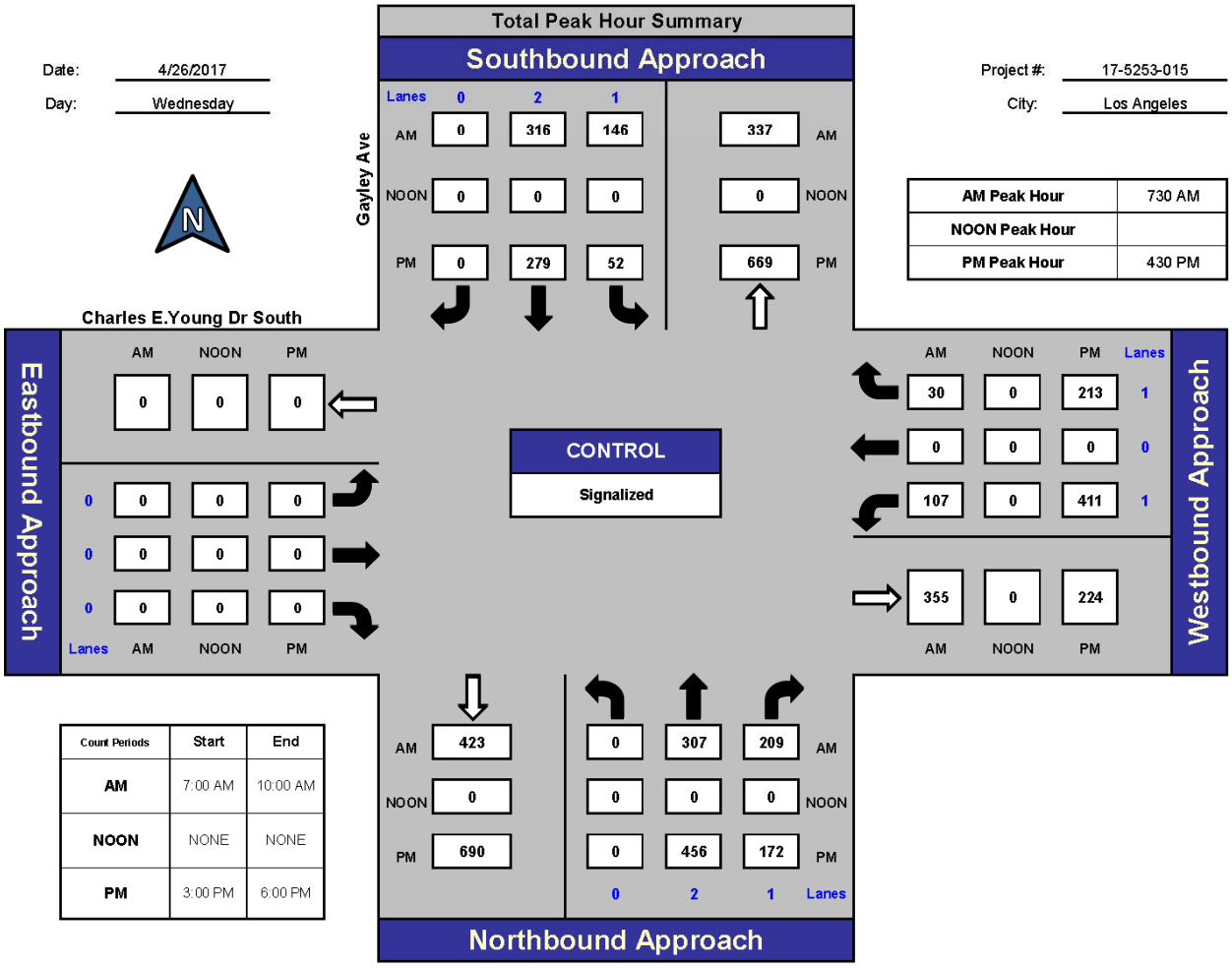
Gayley Ave and Charles E.Young Dr South , Los Angeles

Date: 4/26/2017

Day: Wednesday

Project #: 17-5253-015

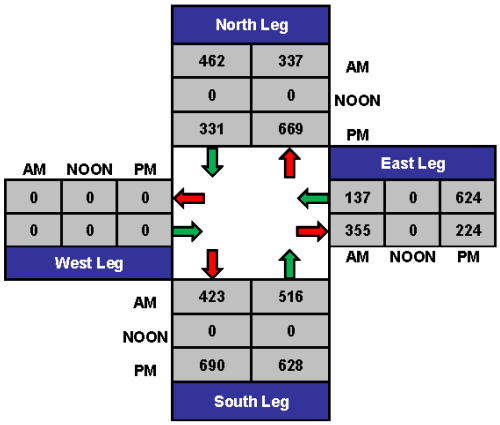
City: Los Angeles



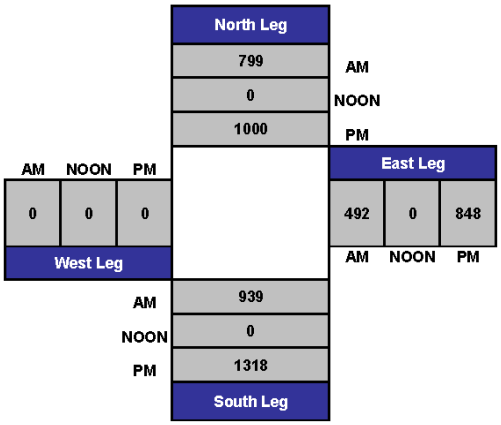
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-015

Day: Wednesday

City: Los Angeles

TOTALS

Date: 4/26/2017

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0	0	0	1	0	1	
7:00 AM	0	41	46	28	78	0	0	0	0	20	0	5	218
7:15 AM	0	65	40	17	70	0	0	0	0	15	0	9	216
7:30 AM	0	84	50	25	75	0	0	0	0	33	0	7	274
7:45 AM	0	79	60	39	76	0	0	0	0	25	0	8	287
8:00 AM	0	77	44	42	95	0	0	0	0	23	0	7	288
8:15 AM	0	67	55	40	70	0	0	0	0	26	0	8	266
8:30 AM	0	68	41	33	67	0	0	0	0	24	0	7	240
8:45 AM	0	81	59	36	66	0	0	0	0	23	0	14	279
9:00 AM	0	57	47	34	85	0	0	0	0	30	0	9	262
9:15 AM	0	51	59	27	72	0	0	0	0	27	0	12	248
9:30 AM	0	50	49	34	56	0	0	0	0	30	0	10	229
9:45 AM	0	54	53	30	58	0	0	0	0	32	0	13	240
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	774	603	385	868	0	0	0	0	308	0	109	3047
APPROACH %'s :	0.00%	56.21%	43.79%	30.73%	69.27%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	73.86%	0.00%	26.14%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	307	209	146	316	0	0	0	0	107	0	30	1115
PEAK HR FACTOR :		0.928			0.843			0.000			0.856		0.968

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-015 **Day:** Wednesday

City: Los Angeles **Date:** 4/26/2017

TOTALS

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0	0	0	1	0	1	
3:00 PM	0	99	25	14	53	0	0	0	0	70	0	41	302
3:15 PM	0	140	29	14	70	0	0	0	0	52	0	36	341
3:30 PM	0	97	42	12	71	0	0	0	0	110	0	61	393
3:45 PM	0	115	37	21	52	0	0	0	0	61	0	44	330
4:00 PM	0	111	28	10	58	0	0	0	0	90	0	39	336
4:15 PM	0	120	32	9	61	0	0	0	0	70	0	44	336
4:30 PM	0	109	35	16	70	0	0	0	0	109	0	44	383
4:45 PM	0	114	46	12	66	0	0	0	0	91	0	43	372
5:00 PM	0	133	44	9	60	0	0	0	0	116	0	67	429
5:15 PM	0	100	47	15	83	0	0	0	0	95	0	59	399
5:30 PM	0	107	32	13	66	0	0	0	0	69	0	38	325
5:45 PM	0	115	39	18	78	0	0	0	0	67	0	42	359
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1360	436	163	788	0	0	0	0	1000	0	558	4305
APPROACH %'s :	0.00%	75.72%	24.28%	17.14%	82.86%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	64.18%	0.00%	35.82%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	456	172	52	279	0	0	0	0	411	0	213	1583
PEAK HR FACTOR :		0.887			0.844			0.000			0.852		0.922

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-015 **Day:** Wednesday

CARS

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0	0	0	1	0	1	
7:00 AM	0	40	45	26	76	0	0	0	0	20	0	5	212
7:15 AM	0	59	38	16	66	0	0	0	0	15	0	9	203
7:30 AM	0	82	47	23	71	0	0	0	0	30	0	7	260
7:45 AM	0	74	58	39	74	0	0	0	0	23	0	8	276
8:00 AM	0	74	43	41	93	0	0	0	0	20	0	7	278
8:15 AM	0	62	54	40	64	0	0	0	0	26	0	8	254
8:30 AM	0	67	40	32	62	0	0	0	0	23	0	7	231
8:45 AM	0	79	55	35	61	0	0	0	0	22	0	14	266
9:00 AM	0	53	43	34	83	0	0	0	0	28	0	9	250
9:15 AM	0	47	57	27	68	0	0	0	0	24	0	12	235
9:30 AM	0	46	47	34	51	0	0	0	0	26	0	10	214
9:45 AM	0	51	49	30	54	0	0	0	0	28	0	13	225
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	734	576	377	823	0	0	0	0	285	0	109	2904
APPROACH %'s :	0.00%	56.03%	43.97%	31.42%	68.58%	0.00%				72.34%	0.00%	27.66%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	292	202	143	302	0	0	0	0	99	0	30	1068
PEAK HR FACTOR :		0.936			0.830			0.000			0.872		0.960

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-015 **Day:** Wednesday

CARS

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0	0	0	1	0	1	
3:00 PM	0	99	23	14	49	0	0	0	0	69	0	40	294
3:15 PM	0	138	28	13	68	0	0	0	0	52	0	36	335
3:30 PM	0	94	41	12	71	0	0	0	0	109	0	60	387
3:45 PM	0	112	36	21	50	0	0	0	0	61	0	44	324
4:00 PM	0	110	26	9	56	0	0	0	0	89	0	39	329
4:15 PM	0	117	32	9	60	0	0	0	0	69	0	43	330
4:30 PM	0	105	34	16	68	0	0	0	0	108	0	44	375
4:45 PM	0	111	46	12	64	0	0	0	0	90	0	42	365
5:00 PM	0	127	39	9	58	0	0	0	0	115	0	65	413
5:15 PM	0	97	46	15	81	0	0	0	0	94	0	59	392
5:30 PM	0	103	31	13	64	0	0	0	0	67	0	38	316
5:45 PM	0	113	38	17	77	0	0	0	0	66	0	42	353
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1326	420	160	766	0	0	0	0	989	0	552	4213
APPROACH %'s :	0.00%	75.95%	24.05%	17.28%	82.72%	0.00%				64.18%	0.00%	35.82%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	440	165	52	271	0	0	0	0	407	0	210	1545
PEAK HR FACTOR :		0.911			0.841			0.000			0.857		0.935

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-5253-015
N/S Street: Gayley Ave
E/W Street: Charles E.Young Dr South
DATE: 4/26/2017 DAY: Wednesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	5	1	0	0	2	10	0	0
7:15 AM	12	5	0	0	6	16	0	0
7:30 AM	26	1	0	0	12	16	0	0
7:45 AM	37	0	0	0	1	12	0	0
8:00 AM	4	1	0	0	3	9	0	0
8:15 AM	8	5	1	0	46	11	0	0
8:30 AM	21	6	0	0	18	11	0	0
8:45 AM	24	0	0	0	10	14	0	0
9:00 AM	12	6	0	0	6	4	0	0
9:15 AM	13	3	0	0	4	6	0	0
9:30 AM	48	3	0	0	3	6	0	0
9:45 AM	39	5	0	0	4	19	0	0
TOTALS	**249**	**36**	**1**	**0**	**115**	**134**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	5	1	0	0	0	1	0	0
7:15 AM	1	2	0	0	0	1	0	0
7:30 AM	18	2	0	0	0	3	0	0
7:45 AM	22	1	0	0	0	2	0	0
8:00 AM	9	1	0	0	0	1	0	0
8:15 AM	13	0	0	0	0	1	0	0
8:30 AM	38	0	0	0	0	0	0	0
8:45 AM	40	2	0	0	0	0	0	0
9:00 AM	16	1	0	0	2	3	0	0
9:15 AM	24	0	0	0	0	3	0	0
9:30 AM	24	0	0	0	1	1	0	0
9:45 AM	28	1	0	0	0	4	0	0
TOTALS	**238**	**11**	**0**	**0**	**3**	**20**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	15	12	0	0	6	8	0	0
3:15 PM	8	6	0	0	4	5	0	0
3:30 PM	10	9	0	0	10	6	0	0
3:45 PM	6	5	0	0	4	10	0	0
4:00 PM	1	6	0	0	4	6	0	0
4:15 PM	1	7	0	0	5	2	0	0
4:30 PM	8	8	0	0	11	10	0	0
4:45 PM	9	13	0	0	10	6	0	0
5:00 PM	4	8	0	0	12	10	0	0
5:15 PM	7	12	0	0	15	0	0	0
5:30 PM	9	10	0	0	16	8	0	0
5:45 PM	9	10	0	0	7	10	0	0
TOTALS	**87**	**106**	**0**	**0**	**104**	**81**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	9	12	0	0	12	4	0	0
3:15 PM	16	23	0	0	18	6	0	0
3:30 PM	9	9	0	0	1	1	0	0
3:45 PM	16	18	0	0	2	2	0	0
4:00 PM	5	35	0	0	9	12	0	0
4:15 PM	1	24	0	0	20	3	0	0
4:30 PM	15	8	0	0	9	6	0	0
4:45 PM	8	26	0	1	15	6	0	0
5:00 PM	2	30	0	0	20	4	0	0
5:15 PM	6	24	0	0	16	3	0	0
5:30 PM	22	16	0	0	11	11	0	0
5:45 PM	13	26	0	0	12	11	0	0
TOTALS	**122**	**251**	**0**	**1**	**145**	**69**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-015

Day: Wednesday

BIKES

City: Los Angeles

Date: 4/26/2017

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0	0	0	1	0	1	
7:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	2
7:15 AM	0	2	1	0	0	0	0	0	0	1	0	0	4
7:30 AM	0	1	1	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	9	1	0	0	0	0	0	0	0	0	10
8:00 AM	0	0	6	0	0	0	0	0	0	0	0	0	6
8:15 AM	0	1	5	0	0	0	0	0	0	0	0	0	6
8:30 AM	0	1	7	0	0	0	0	0	0	1	0	0	9
8:45 AM	0	1	5	1	1	0	0	0	0	0	0	0	8
9:00 AM	0	0	7	1	0	0	0	0	0	0	0	0	8
9:15 AM	0	0	13	0	2	0	0	0	0	1	0	0	16
9:30 AM	0	0	5	0	1	0	0	0	0	0	0	0	6
9:45 AM	0	1	4	0	0	0	0	0	0	3	0	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	7	64	3	5	0	0	0	0	6	0	0	85
APPROACH %'s :	0.00%	9.86%	90.14%	37.50%	62.50%	0.00%				100.00%	0.00%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	2	21	1	0	0	0	0	0	0	0	0	24
PEAK HR FACTOR :		0.639			0.250			0.000			0.000		0.600

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-015 **Day:** Wednesday

BIKES

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0	0	0	1	0	1	
3:00 PM	0	0	2	0	1	0	0	0	0	1	0	2	6
3:15 PM	0	0	1	0	2	0	0	0	0	2	0	0	5
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
3:45 PM	0	1	2	0	0	0	0	0	0	4	0	0	7
4:00 PM	0	0	0	0	0	0	0	0	0	9	0	0	9
4:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	4
4:30 PM	0	0	0	0	2	0	0	0	0	3	0	0	5
4:45 PM	0	0	1	0	0	0	0	0	0	6	0	0	7
5:00 PM	0	0	1	0	0	0	0	0	0	4	0	0	5
5:15 PM	0	1	0	0	1	0	0	0	0	2	0	1	5
5:30 PM	0	0	1	0	0	0	0	0	0	6	0	0	7
5:45 PM	0	0	0	0	0	0	0	0	0	9	0	1	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2	8	0	6	0	0	0	0	51	0	4	71
APPROACH %'s :	0.00%	20.00%	80.00%	0.00%	100.00%	0.00%				92.73%	0.00%	7.27%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	1	2	0	3	0	0	0	0	15	0	1	22
PEAK HR FACTOR :		0.750			0.375			0.000			0.667		0.786

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-015 **Day:** Wednesday

BUSES

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0	0	0	1	0	1	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	3	1	0	1	0	0	0	0	0	0	0	5
7:30 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
7:45 AM	0	3	1	0	2	0	0	0	0	0	0	0	6
8:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
8:15 AM	0	2	1	0	3	0	0	0	0	0	0	0	6
8:30 AM	0	1	1	0	3	0	0	0	0	0	0	0	5
8:45 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
9:00 AM	0	1	1	0	1	0	0	0	0	0	0	0	3
9:15 AM	0	3	1	0	1	0	0	0	0	0	0	0	5
9:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
9:45 AM	0	0	1	0	2	0	0	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	20	7	0	20	0	0	0	0	0	0	0	47
APPROACH %'s :	0.00%	74.07%	25.93%	0.00%	100.00%	0.00%							
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	7	2	0	10	0	0	0	0	0	0	0	19
PEAK HR FACTOR :		0.563			0.833			0.000			0.000		0.792

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-015 **Day:** Wednesday

BUSES

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0	0	0	1	0	1	
3:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
3:15 PM	0	2	1	0	0	0	0	0	0	0	0	0	3
3:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	1	1	0	2	0	0	0	0	0	0	0	4
4:00 PM	0	1	1	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	2	1	0	2	0	0	0	0	0	0	0	5
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
5:00 PM	0	2	1	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	2	1	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	3	1	0	2	0	0	0	0	0	0	0	6
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	17	7	0	9	0	0	0	0	0	0	0	33
APPROACH %'s :	0.00%	70.83%	29.17%	0.00%	100.00%	0.00%							
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	7	3	0	3	0	0	0	0	0	0	0	13
PEAK HR FACTOR :		0.833			0.375			0.000			0.000		0.650

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-015 **Day:** Wednesday

HEAVY TRUCKS

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0	0	0	1	0	1	
7:00 AM	0	0	1	2	2	0	0	0	0	0	0	0	5
7:15 AM	0	3	1	1	3	0	0	0	0	0	0	0	8
7:30 AM	0	2	3	2	1	0	0	0	0	3	0	0	11
7:45 AM	0	2	1	0	0	0	0	0	0	2	0	0	5
8:00 AM	0	1	1	1	0	0	0	0	0	3	0	0	6
8:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	6
8:30 AM	0	0	0	1	2	0	0	0	0	1	0	0	4
8:45 AM	0	0	4	1	4	0	0	0	0	1	0	0	10
9:00 AM	0	3	3	0	1	0	0	0	0	2	0	0	9
9:15 AM	0	1	1	0	3	0	0	0	0	3	0	0	8
9:30 AM	0	2	2	0	4	0	0	0	0	4	0	0	12
9:45 AM	0	3	3	0	2	0	0	0	0	4	0	0	12
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	20	20	8	25	0	0	0	0	23	0	0	96
APPROACH %'s :	0.00%	50.00%	50.00%	24.24%	75.76%	0.00%				100.00%	0.00%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	8	5	3	4	0	0	0	0	8	0	0	28
PEAK HR FACTOR :		0.650			0.583			0.000			0.667		0.636

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-015

Day: Wednesday

HEAVY TRUCKS

City: Los Angeles

Date: 4/26/2017

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0	0	0	1	0	1	
3:00 PM	0	0	2	0	3	0	0	0	0	1	0	1	7
3:15 PM	0	0	0	1	2	0	0	0	0	0	0	0	3
3:30 PM	0	2	1	0	0	0	0	0	0	1	0	1	5
3:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
4:00 PM	0	0	1	1	2	0	0	0	0	1	0	0	5
4:15 PM	0	2	0	0	1	0	0	0	0	1	0	1	5
4:30 PM	0	2	0	0	0	0	0	0	0	1	0	0	3
4:45 PM	0	2	0	0	1	0	0	0	0	1	0	1	5
5:00 PM	0	4	4	0	2	0	0	0	0	1	0	2	13
5:15 PM	0	1	0	0	2	0	0	0	0	1	0	0	4
5:30 PM	0	1	0	0	0	0	0	0	0	2	0	0	3
5:45 PM	0	1	1	1	0	0	0	0	0	1	0	0	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	17	9	3	13	0	0	0	0	11	0	6	59
APPROACH %'s :	0.00%	65.38%	34.62%	18.75%	81.25%	0.00%				64.71%	0.00%	35.29%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	9	4	0	5	0	0	0	0	4	0	3	25
PEAK HR FACTOR :		0.406			0.625			0.000			0.583		0.481

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Charles E.Young Dr West and Charles E.Young Dr South , Los Angeles

Date: 4/27/2017

Day: Thursday

Project #: 17-5253-115

City: Los Angeles

AM Peak Hour	900 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Total Peak Hour Summary

Southbound Approach (Charles E.Young Dr West)

Lanes	1.5	0	0.5	
AM	50	0	41	50 AM
NOON	0	0	0	0 NOON
PM	252	0	59	47 PM

Eastbound Approach (Charles E.Young Dr South)

Lanes	AM	NOON	PM
	163	0	618
0	22	0	17
2	314	0	208
0	0	0	0

Westbound Approach

Lanes	AM	NOON	PM
0	28	0	30
2	113	0	366
0	0	0	0
	355	0	267

CONTROL: Signalized

Northbound Approach

Lanes	0	0	0	
AM	0	0	0	0 AM
NOON	0	0	0	0 NOON
PM	0	0	0	0 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	91	0	311
	50	0	47
West Leg	163	0	618
	336	0	225
East Leg	141	0	396
	355	0	267
South Leg	0	0	0
	0	0	0

Total Volume Per Leg

	AM	NOON	PM
North Leg	141	0	358
West Leg	499	0	843
East Leg	496	0	663
South Leg	0	0	0

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-115

Day: Thursday

TOTALS

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Charles E.Young Dr West			Charles E.Young Dr West			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0.5	0	1.5	0	2	0	0	2	0	
7:00 AM	0	0	0	16	0	13	3	72	0	0	12	12	128
7:15 AM	0	0	0	15	0	9	4	53	0	0	15	8	104
7:30 AM	0	0	0	6	0	25	6	67	0	0	17	12	133
7:45 AM	0	0	0	8	0	11	5	96	0	0	21	13	154
8:00 AM	0	0	0	4	0	8	4	82	0	0	22	8	128
8:15 AM	0	0	0	4	0	8	7	90	0	0	26	14	149
8:30 AM	0	0	0	10	0	11	5	69	0	0	21	9	125
8:45 AM	0	0	0	12	0	13	1	85	0	0	24	13	148
9:00 AM	0	0	0	8	0	15	4	78	0	0	25	8	138
9:15 AM	0	0	0	13	0	7	6	81	0	0	31	4	142
9:30 AM	0	0	0	7	0	14	3	81	0	0	26	8	139
9:45 AM	0	0	0	13	0	14	9	74	0	0	31	8	149
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	116	0	148	57	928	0	0	271	117	1637
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	43.94%	0.00%	56.06%	5.79%	94.21%	0.00%	0.00%	69.85%	30.15%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	0	0	0	41	0	50	22	314	0	0	113	28	568
PEAK HR FACTOR :		0.000			0.843			0.966			0.904		0.953

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-115

Day: Thursday

TOTALS

City: Los Angeles

Date: 4/27/2017

PM

NS/EW Streets:	Charles E.Young Dr West			Charles E.Young Dr West			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0.5	0	1.5	0	2	0	0	2	0	
3:00 PM	0	0	0	11	0	38	1	41	0	0	71	15	177
3:15 PM	0	0	0	10	0	39	0	39	0	0	49	16	153
3:30 PM	0	0	0	24	0	87	5	48	0	0	89	13	266
3:45 PM	0	0	0	16	0	39	1	56	0	0	63	5	180
4:00 PM	0	0	0	11	0	54	9	29	0	0	72	10	185
4:15 PM	0	0	0	11	0	46	4	38	0	0	72	7	178
4:30 PM	0	0	0	10	0	63	2	53	0	0	85	5	218
4:45 PM	0	0	0	15	0	50	6	49	0	0	85	3	208
5:00 PM	0	0	0	18	0	71	3	51	0	0	113	11	267
5:15 PM	0	0	0	16	0	68	6	55	0	0	83	11	239
5:30 PM	0	0	0	14	0	33	6	38	0	0	73	5	169
5:45 PM	0	0	0	13	0	39	6	50	0	0	74	7	189
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	169	0	627	49	547	0	0	929	108	2429
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	21.23%	0.00%	78.77%	8.22%	91.78%	0.00%	0.00%	89.59%	10.41%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	59	0	252	17	208	0	0	366	30	932
PEAK HR FACTOR :		0.000			0.874			0.922			0.798		0.873

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-115

Day: Thursday

CARS

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Charles E.Young Dr West			Charles E.Young Dr West			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0.5	0	1.5	0	2	0	0	2	0	
7:00 AM	0	0	0	15	0	13	3	69	0	0	12	11	123
7:15 AM	0	0	0	14	0	9	3	51	0	0	15	8	100
7:30 AM	0	0	0	6	0	25	6	62	0	0	14	10	123
7:45 AM	0	0	0	8	0	11	5	94	0	0	19	13	150
8:00 AM	0	0	0	4	0	8	3	81	0	0	19	8	123
8:15 AM	0	0	0	4	0	8	7	89	0	0	26	11	145
8:30 AM	0	0	0	10	0	10	4	68	0	0	21	9	122
8:45 AM	0	0	0	11	0	12	1	80	0	0	24	13	141
9:00 AM	0	0	0	7	0	15	4	74	0	0	23	6	129
9:15 AM	0	0	0	13	0	6	5	80	0	0	29	4	137
9:30 AM	0	0	0	7	0	14	3	79	0	0	22	8	133
9:45 AM	0	0	0	11	0	14	8	72	0	0	27	8	140
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	110	0	145	52	899	0	0	251	109	1566
APPROACH %'s :				43.14%	0.00%	56.86%	5.47%	94.53%	0.00%	0.00%	69.72%	30.28%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	0	0	0	38	0	49	20	305	0	0	101	26	539
PEAK HR FACTOR :		0.000			0.870			0.956			0.907		0.963

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-115 **Day:** Thursday

CARS

City: Los Angeles **Date:** 4/27/2017

PM

NS/EW Streets:	Charles E.Young Dr West			Charles E.Young Dr West			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0.5	0	1.5	0	2	0	0	2	0	
3:00 PM	0	0	0	10	0	38	1	40	0	0	68	14	171
3:15 PM	0	0	0	10	0	39	0	37	0	0	49	15	150
3:30 PM	0	0	0	24	0	86	4	48	0	0	88	13	263
3:45 PM	0	0	0	16	0	39	1	55	0	0	63	5	179
4:00 PM	0	0	0	11	0	53	9	26	0	0	72	10	181
4:15 PM	0	0	0	11	0	46	4	38	0	0	70	7	176
4:30 PM	0	0	0	10	0	63	2	52	0	0	84	5	216
4:45 PM	0	0	0	15	0	50	6	49	0	0	83	3	206
5:00 PM	0	0	0	18	0	71	2	47	0	0	110	10	258
5:15 PM	0	0	0	16	0	67	6	54	0	0	83	11	237
5:30 PM	0	0	0	14	0	32	6	37	0	0	72	5	166
5:45 PM	0	0	0	13	0	39	5	49	0	0	73	7	186
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	168	0	623	46	532	0	0	915	105	2389
APPROACH %'s :				21.24%	0.00%	78.76%	7.96%	92.04%	0.00%	0.00%	89.71%	10.29%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	59	0	251	16	202	0	0	360	29	917
PEAK HR FACTOR :		0.000			0.871			0.908			0.810		0.889

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-5253-115
N/S Street: Charles E.Young Dr West
E/W Street: Charles E.Young Dr South
DATE: 4/27/2017 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	4	0	0	0	3	17	0	1
7:15 AM	2	0	0	0	5	18	1	0
7:30 AM	27	1	0	0	9	22	0	1
7:45 AM	40	1	0	0	2	19	0	1
8:00 AM	5	2	0	0	4	14	0	0
8:15 AM	16	2	0	0	5	11	0	0
8:30 AM	24	1	0	0	4	15	0	0
8:45 AM	49	4	0	0	1	9	0	2
9:00 AM	21	3	0	0	4	6	0	0
9:15 AM	29	1	0	0	5	8	0	0
9:30 AM	57	1	0	0	1	7	0	2
9:45 AM	54	1	0	0	2	6	1	0
TOTALS	**328**	**17**	**0**	**0**	**45**	**152**	**2**	**7**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	1	0	0	0	0	0	0	0
7:15 AM	4	0	0	0	0	3	0	0
7:30 AM	6	0	0	0	0	1	0	0
7:45 AM	14	0	0	0	0	4	0	0
8:00 AM	4	0	0	0	0	0	0	0
8:15 AM	1	0	0	0	0	2	0	0
8:30 AM	22	1	0	0	0	2	0	1
8:45 AM	28	0	0	0	0	1	0	0
9:00 AM	4	3	0	0	0	2	0	0
9:15 AM	4	0	0	0	0	0	0	0
9:30 AM	14	1	0	0	0	0	0	0
9:45 AM	17	4	0	0	0	0	0	0
TOTALS	**119**	**9**	**0**	**0**	**0**	**15**	**0**	**1**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	8	6	0	0	20	6	0	0
3:15 PM	4	3	0	0	20	7	0	0
3:30 PM	4	3	0	0	20	9	0	0
3:45 PM	3	5	0	0	14	6	1	0
4:00 PM	0	6	0	0	10	2	0	0
4:15 PM	1	7	0	0	7	3	0	0
4:30 PM	6	1	0	0	9	6	0	0
4:45 PM	3	0	0	0	10	5	0	0
5:00 PM	3	6	0	0	14	2	0	0
5:15 PM	1	3	0	0	9	0	0	0
5:30 PM	22	12	0	0	14	1	0	0
5:45 PM	21	23	0	0	16	1	0	0
TOTALS	**76**	**75**	**0**	**0**	**163**	**48**	**1**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	9	17	0	0	0	1	0	0
3:15 PM	19	24	0	0	2	4	0	0
3:30 PM	15	13	0	0	0	0	0	0
3:45 PM	18	21	0	0	1	3	0	0
4:00 PM	2	23	0	0	9	1	1	0
4:15 PM	3	21	0	0	4	3	0	0
4:30 PM	11	12	0	0	4	0	0	0
4:45 PM	19	35	0	0	5	3	1	0
5:00 PM	1	30	0	0	7	0	0	0
5:15 PM	10	34	0	0	2	2	2	0
5:30 PM	0	9	0	0	0	0	0	0
5:45 PM	0	13	0	0	0	0	0	0
TOTALS	**107**	**252**	**0**	**0**	**34**	**17**	**4**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-115 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 4/27/2017

AM

NS/EW Streets:	Charles E.Young Dr West			Charles E.Young Dr West			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0.5	0	1.5	0	2	0	0	2	0	
7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
7:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	1	9	0	0	0	1	11
8:00 AM	0	0	0	0	0	0	0	5	0	0	0	0	5
8:15 AM	0	0	0	0	0	0	0	5	0	0	0	0	5
8:30 AM	0	0	0	0	0	0	0	7	0	0	1	0	8
8:45 AM	0	0	0	0	0	0	0	7	0	0	0	0	7
9:00 AM	0	0	0	0	0	0	2	6	0	0	0	0	8
9:15 AM	0	0	0	0	0	0	3	8	0	0	1	0	12
9:30 AM	0	0	0	1	0	0	1	5	0	0	0	0	7
9:45 AM	0	0	0	1	0	1	0	5	0	0	2	0	9
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	3	0	1	8	59	0	0	5	1	77
APPROACH %'s :				75.00%	0.00%	25.00%	11.94%	88.06%	0.00%	0.00%	83.33%	16.67%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	0	0	0	2	0	1	6	24	0	0	3	0	36
PEAK HR FACTOR :		0.000			0.375			0.682			0.375		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-115 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 4/27/2017

PM

NS/EW Streets:	Charles E.Young Dr West			Charles E.Young Dr West			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0.5	0	1.5	0	2	0	0	2	0	
3:00 PM	0	0	0	0	0	0	1	1	0	0	3	0	5
3:15 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
3:30 PM	0	0	0	0	0	2	0	1	0	0	0	0	3
3:45 PM	0	0	0	1	0	0	0	1	0	0	7	0	9
4:00 PM	0	0	0	0	0	1	0	0	0	0	5	1	7
4:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	4
4:30 PM	0	0	0	0	0	1	0	0	0	0	4	0	5
4:45 PM	0	0	0	0	0	0	1	0	0	0	5	0	6
5:00 PM	0	0	0	0	0	0	0	1	0	0	3	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	4
5:30 PM	0	0	0	0	0	1	0	1	0	0	5	0	7
5:45 PM	0	0	0	0	0	0	0	0	0	0	8	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	1	0	5	2	6	0	0	50	1	65
APPROACH %'s :				16.67%	0.00%	83.33%	25.00%	75.00%	0.00%	0.00%	98.04%	1.96%	

PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	1	1	1	0	0	16	0	19
PEAK HR FACTOR :		0.000			0.250			0.500			0.800		0.792

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-115

Day: Thursday

BUSES

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Charles E.Young Dr West			Charles E.Young Dr West			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0.5	0	1.5	0	2	0	0	2	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	2
9:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	7	0	0	0	1	8
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	3	0	0	0	1	4
PEAK HR FACTOR :		0.000			0.000			0.750			0.250		0.500

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-115 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 4/27/2017

PM

NS/EW Streets:	Charles E.Young Dr West			Charles E.Young Dr West			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0.5	0	1.5	0	2	0	0	2	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	7	0	0	0	0	7
APPROACH %'s :							0.00%	100.00%	0.00%				
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	3	0	0	0	0	3
PEAK HR FACTOR :		0.000			0.000			0.750			0.000		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-115

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Charles E.Young Dr West			Charles E.Young Dr West			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0.5	0	1.5	0	2	0	0	2	0	
7:00 AM	0	0	0	1	0	0	0	3	0	0	0	1	5
7:15 AM	0	0	0	1	0	0	1	1	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	5	0	0	3	2	10
7:45 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
8:00 AM	0	0	0	0	0	0	1	1	0	0	3	0	5
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	3
8:30 AM	0	0	0	0	0	1	1	0	0	0	0	0	2
8:45 AM	0	0	0	1	0	1	0	5	0	0	0	0	7
9:00 AM	0	0	0	1	0	0	0	3	0	0	2	1	7
9:15 AM	0	0	0	0	0	1	1	0	0	0	2	0	4
9:30 AM	0	0	0	0	0	0	0	2	0	0	4	0	6
9:45 AM	0	0	0	2	0	0	1	1	0	0	4	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	6	0	3	5	22	0	0	20	7	63
APPROACH %'s :				66.67%	0.00%	33.33%	18.52%	81.48%	0.00%	0.00%	74.07%	25.93%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	0	0	0	3	0	1	2	6	0	0	12	1	25
PEAK HR FACTOR :		0.000			0.500			0.667			0.813		0.781

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-115

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 4/27/2017

PM

NS/EW Streets:	Charles E.Young Dr West			Charles E.Young Dr West			Charles E.Young Dr South			Charles E.Young Dr South			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0.5	0	1.5	0	2	0	0	2	0	
3:00 PM	0	0	0	1	0	0	0	1	0	0	3	1	6
3:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	2
3:30 PM	0	0	0	0	0	1	1	0	0	0	1	0	3
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	1	0	2	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
5:00 PM	0	0	0	0	0	0	1	3	0	0	3	1	8
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	1	0	0	0	0	1	0	2
5:45 PM	0	0	0	0	0	0	1	1	0	0	1	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	1	0	4	3	8	0	0	14	3	33
APPROACH %'s :				20.00%	0.00%	80.00%	27.27%	72.73%	0.00%	0.00%	82.35%	17.65%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	1	1	3	0	0	6	1	12
PEAK HR FACTOR :		0.000			0.250			0.250			0.438		0.375

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

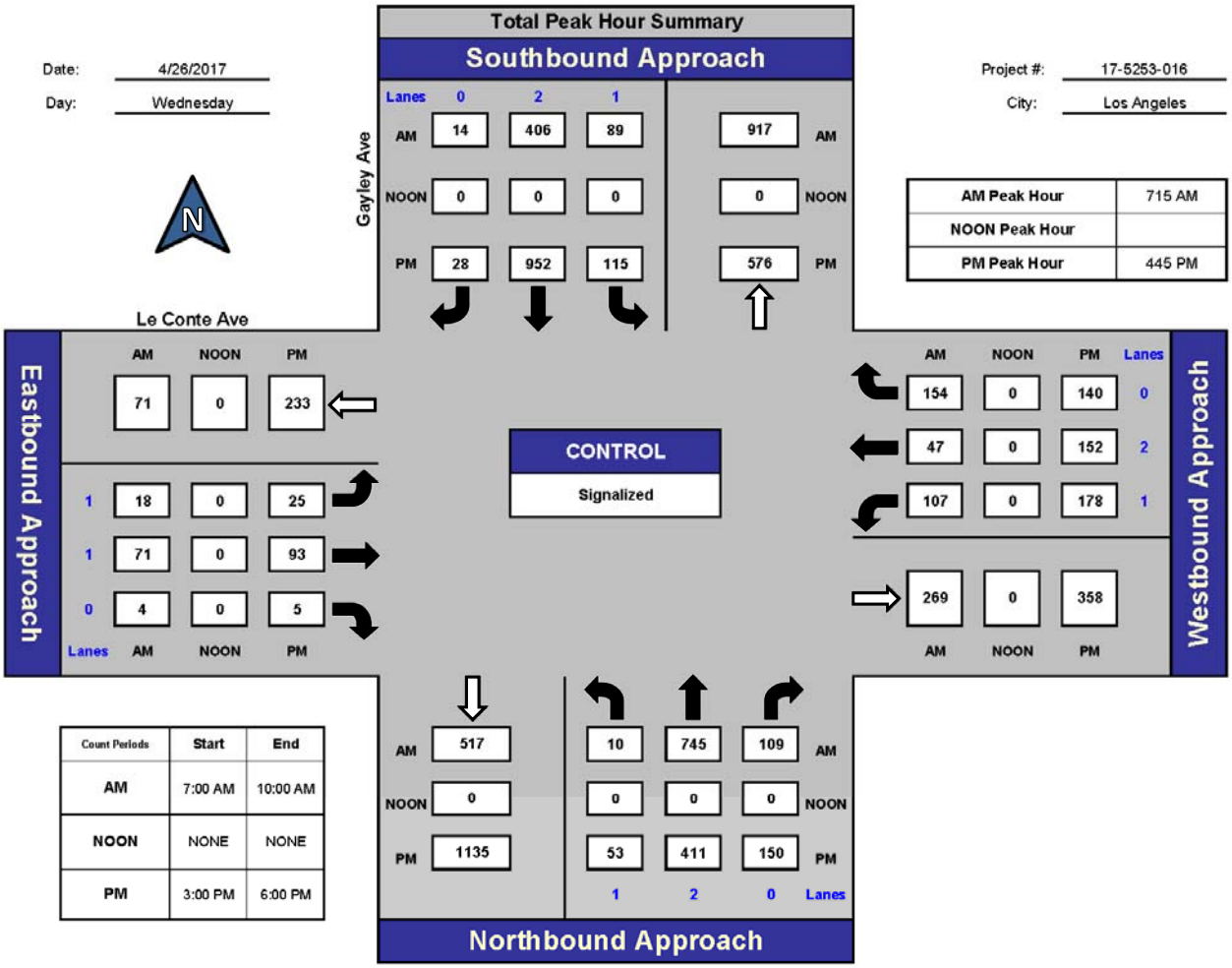
Gayley Ave and Le Conte Ave , Los Angeles

Date: 4/26/2017

Day: Wednesday

Project #: 17-5253-016

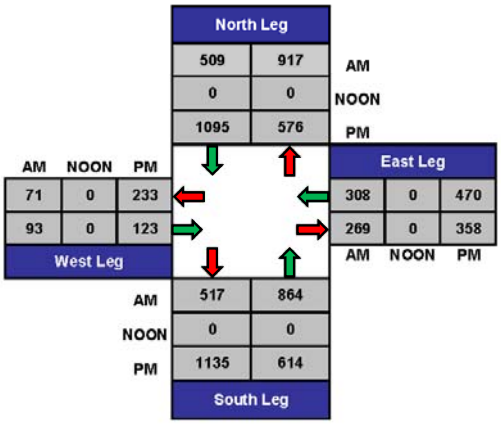
City: Los Angeles



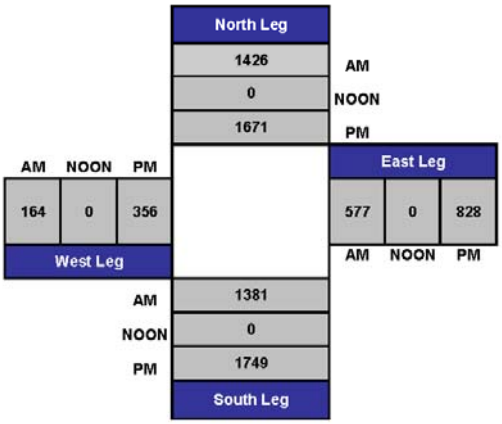
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-016

Day: Wednesday

City: Los Angeles

TOTALS

Date: 4/26/2017

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	2	0	
7:00 AM	5	176	16	19	69	8	2	14	0	16	7	21	353
7:15 AM	1	181	29	17	81	3	4	5	0	19	10	29	379
7:30 AM	2	186	24	21	121	1	4	16	3	26	10	27	441
7:45 AM	2	201	29	25	125	6	5	25	0	32	6	55	511
8:00 AM	5	177	27	26	79	4	5	25	1	30	21	43	443
8:15 AM	3	160	35	23	62	5	9	19	3	28	9	22	378
8:30 AM	2	156	30	27	88	6	2	11	0	28	13	25	388
8:45 AM	3	145	29	16	71	1	7	11	4	29	10	21	347
9:00 AM	3	127	37	31	93	5	2	22	2	29	17	28	396
9:15 AM	4	107	26	38	78	7	7	19	5	24	15	32	362
9:30 AM	0	127	30	21	77	5	5	18	1	27	11	21	343
9:45 AM	5	120	21	22	90	3	8	16	4	35	9	19	352
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	35	1863	333	286	1034	54	60	201	23	323	138	343	4693
APPROACH %'s :	1.57%	83.51%	14.93%	20.82%	75.25%	3.93%	21.13%	70.77%	8.10%	40.17%	17.16%	42.66%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	10	745	109	89	406	14	18	71	4	107	47	154	1774
PEAK HR FACTOR :		0.931			0.816			0.750			0.819		0.868

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-016 **Day:** Wednesday

TOTALS

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	2	0	
3:00 PM	10	96	39	23	140	15	3	16	1	39	41	49	472
3:15 PM	10	74	45	20	153	4	4	21	4	43	25	45	448
3:30 PM	13	89	30	23	237	5	7	19	3	51	23	38	538
3:45 PM	12	95	45	20	147	11	3	13	4	39	35	42	466
4:00 PM	10	84	27	25	206	5	4	24	1	45	39	29	499
4:15 PM	12	98	41	19	187	9	6	16	1	47	30	41	507
4:30 PM	6	94	42	27	202	11	4	22	0	55	40	37	540
4:45 PM	12	114	40	29	221	5	3	19	0	35	34	35	547
5:00 PM	15	106	25	26	280	14	12	26	0	45	47	32	628
5:15 PM	13	99	37	32	238	5	2	19	1	54	41	32	573
5:30 PM	13	92	48	28	213	4	8	29	4	44	30	41	554
5:45 PM	9	103	29	30	164	13	3	17	2	47	47	40	504
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	135	1144	448	302	2388	101	59	241	21	544	432	461	6276
APPROACH %'s :	7.82%	66.24%	25.94%	10.82%	85.56%	3.62%	18.38%	75.08%	6.54%	37.86%	30.06%	32.08%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	53	411	150	115	952	28	25	93	5	178	152	140	2302
PEAK HR FACTOR :		0.925			0.855			0.750			0.925		0.916

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-016

Day: Wednesday

CARS

City: Los Angeles

Date: 4/26/2017

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	2	0	
7:00 AM	5	174	13	18	66	6	2	14	0	14	7	20	339
7:15 AM	1	177	28	15	80	3	4	5	0	17	10	27	367
7:30 AM	2	180	22	19	119	1	4	16	3	22	10	26	424
7:45 AM	2	197	28	23	121	6	5	25	0	29	6	53	495
8:00 AM	5	173	26	23	78	4	5	25	1	24	21	42	427
8:15 AM	3	157	33	19	60	5	9	19	3	25	9	19	361
8:30 AM	2	156	29	23	85	6	2	11	0	25	13	24	376
8:45 AM	3	139	28	14	66	1	6	11	4	23	10	19	324
9:00 AM	3	122	36	30	91	5	2	22	2	24	17	27	381
9:15 AM	4	105	26	35	72	7	7	18	5	21	14	27	341
9:30 AM	0	122	29	21	69	5	5	18	1	22	11	19	322
9:45 AM	5	116	21	19	87	3	7	16	4	32	9	19	338
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	35	1818	319	259	994	52	58	200	23	278	137	322	4495
APPROACH %'s :	1.61%	83.70%	14.69%	19.85%	76.17%	3.98%	20.64%	71.17%	8.19%	37.72%	18.59%	43.69%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	10	727	104	80	398	14	18	71	4	92	47	148	1713
PEAK HR FACTOR :		0.926			0.820			0.750			0.815		0.865

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-016 **Day:** Wednesday

CARS

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	2	0	
3:00 PM	9	94	36	21	137	15	3	16	1	36	40	49	457
3:15 PM	10	74	43	19	149	4	4	21	4	40	25	43	436
3:30 PM	13	85	28	23	235	5	7	19	3	49	23	37	527
3:45 PM	11	93	42	18	147	11	2	12	4	35	35	40	450
4:00 PM	10	82	26	25	202	5	4	24	1	45	38	28	490
4:15 PM	12	97	37	17	187	9	6	16	1	45	30	39	496
4:30 PM	5	92	39	24	201	11	4	22	0	52	40	34	524
4:45 PM	12	110	39	27	221	5	3	19	0	33	34	34	537
5:00 PM	14	102	24	26	278	14	12	25	0	42	47	28	612
5:15 PM	13	97	35	32	235	5	2	19	1	52	41	31	563
5:30 PM	13	91	47	26	210	4	8	29	4	42	30	39	543
5:45 PM	9	100	28	29	163	13	3	17	2	45	46	37	492
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	131	1117	424	287	2365	101	58	239	21	516	429	439	6127
APPROACH %'s :	7.83%	66.81%	25.36%	10.42%	85.91%	3.67%	18.24%	75.16%	6.60%	37.28%	31.00%	31.72%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	52	400	145	111	944	28	25	92	5	169	152	132	2255
PEAK HR FACTOR :		0.927			0.851			0.744			0.913		0.921

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-5253-016
N/S Street: Gayley Ave
E/W Street: Le Conte Ave
DATE: 4/26/2017 DAY: Wednesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	7	3	3	5	7	2	5	5
7:15 AM	10	16	11	2	6	7	4	8
7:30 AM	27	12	10	5	15	12	8	6
7:45 AM	31	18	17	12	21	7	16	13
8:00 AM	20	17	19	4	27	9	9	21
8:15 AM	24	12	21	6	33	20	17	15
8:30 AM	11	23	18	9	17	5	15	14
8:45 AM	11	14	16	4	13	8	13	14
9:00 AM	15	9	17	14	14	13	3	17
9:15 AM	18	17	15	5	11	10	6	10
9:30 AM	23	15	14	5	16	10	12	9
9:45 AM	24	17	17	3	16	9	7	12
TOTALS	**221**	**173**	**178**	**74**	**196**	**112**	**115**	**144**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	1	0	0	0	1	1
7:15 AM	0	0	4	1	2	1	1	3
7:30 AM	0	0	3	0	0	1	0	1
7:45 AM	6	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	1	0	2	0	1	1	0	2
8:30 AM	1	0	3	0	0	0	0	2
8:45 AM	6	0	0	0	0	0	0	0
9:00 AM	5	0	0	0	0	0	1	0
9:15 AM	3	1	1	0	2	0	2	0
9:30 AM	8	3	6	2	0	3	2	2
9:45 AM	4	0	1	0	0	0	2	0
TOTALS	**34**	**4**	**21**	**3**	**5**	**6**	**9**	**11**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	16	29	12	17	19	15	9	13
3:15 PM	17	23	22	17	29	18	14	27
3:30 PM	13	26	14	21	19	19	10	16
3:45 PM	21	34	12	25	24	19	15	14
4:00 PM	18	37	15	21	24	25	12	14
4:15 PM	15	33	20	19	20	14	10	17
4:30 PM	20	34	24	15	26	18	10	22
4:45 PM	17	41	19	29	30	21	23	25
5:00 PM	19	40	33	24	21	32	13	35
5:15 PM	19	43	22	30	22	21	10	23
5:30 PM	21	44	18	21	22	22	16	17
5:45 PM	26	39	25	35	26	28	16	30
TOTALS	**222**	**423**	**236**	**274**	**282**	**252**	**158**	**253**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	2	0	3	3	0	0	0
3:15 PM	0	1	1	0	1	0	3	1
3:30 PM	0	2	3	1	3	1	2	1
3:45 PM	3	4	0	2	1	1	4	1
4:00 PM	1	0	2	0	0	1	0	1
4:15 PM	1	1	5	1	0	2	1	2
4:30 PM	0	0	5	0	0	0	0	4
4:45 PM	0	1	0	1	0	0	2	0
5:00 PM	0	4	3	0	2	0	4	1
5:15 PM	1	0	2	1	3	0	4	1
5:30 PM	1	0	0	0	1	4	1	1
5:45 PM	0	1	4	4	0	3	2	7
TOTALS	**7**	**16**	**25**	**13**	**14**	**12**	**23**	**20**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-016 **Day:** Wednesday

BIKES

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	2	0	
7:00 AM	0	0	2	0	2	0	0	0	0	1	0	0	5
7:15 AM	0	5	0	0	1	0	0	1	0	0	0	0	7
7:30 AM	0	2	1	0	0	0	0	1	0	0	0	0	4
7:45 AM	0	8	0	0	0	0	0	2	0	0	0	0	10
8:00 AM	0	8	2	0	0	0	0	1	0	1	1	0	13
8:15 AM	0	5	3	0	2	0	0	1	0	0	0	1	12
8:30 AM	1	6	0	0	1	0	0	1	0	0	0	0	9
8:45 AM	0	6	6	0	1	0	0	0	0	0	0	0	13
9:00 AM	0	10	5	0	1	0	1	0	0	0	0	0	17
9:15 AM	0	10	3	0	2	0	0	2	0	1	0	0	18
9:30 AM	0	6	4	0	0	0	0	0	0	0	0	0	10
9:45 AM	0	4	7	1	0	1	1	1	0	0	0	0	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	70	33	1	10	1	2	10	0	3	1	1	133
APPROACH %'s :	0.96%	67.31%	31.73%	8.33%	83.33%	8.33%	16.67%	83.33%	0.00%	60.00%	20.00%	20.00%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	23	3	0	1	0	0	5	0	1	1	0	34
PEAK HR FACTOR :		0.650			0.250			0.625			0.250		0.654

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-016 **Day:** Wednesday

BIKES

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	2	0	
3:00 PM	0	0	0	0	2	0	0	1	0	1	1	0	5
3:15 PM	0	2	0	0	2	0	0	0	0	1	2	0	7
3:30 PM	0	1	1	0	3	1	0	0	0	2	1	0	9
3:45 PM	0	1	0	0	2	0	0	0	0	3	0	0	6
4:00 PM	0	0	0	0	8	1	0	1	0	2	0	0	12
4:15 PM	0	0	0	0	4	0	0	0	0	1	1	0	6
4:30 PM	0	0	0	0	4	0	0	0	0	3	0	0	7
4:45 PM	0	1	0	0	5	0	0	1	0	1	2	0	10
5:00 PM	0	1	0	0	6	0	0	0	0	1	0	0	8
5:15 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
5:30 PM	0	0	1	0	5	0	0	0	0	3	3	0	12
5:45 PM	1	0	0	0	9	0	0	1	0	0	1	0	12
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	6	2	0	53	2	0	4	0	18	11	0	97
APPROACH %'s :	11.11%	66.67%	22.22%	0.00%	96.36%	3.64%	0.00%	100.00%	0.00%	62.07%	37.93%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	2	1	0	19	0	0	1	0	5	5	0	33
PEAK HR FACTOR :		0.750			0.792			0.250			0.417		0.688

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-016 **Day:** Wednesday

BUSES

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	2	0	
7:00 AM	0	1	3	1	1	0	0	0	0	2	0	1	9
7:15 AM	0	1	1	1	1	0	0	0	0	2	0	2	8
7:30 AM	0	1	1	2	0	0	0	0	0	3	0	1	8
7:45 AM	0	1	1	2	1	0	0	0	0	3	0	2	10
8:00 AM	0	0	1	1	0	0	0	0	0	6	0	1	9
8:15 AM	0	1	2	2	0	0	0	0	0	3	0	2	10
8:30 AM	0	0	0	2	0	0	0	0	0	3	0	1	6
8:45 AM	0	1	1	1	0	0	0	0	0	5	0	1	9
9:00 AM	0	1	0	1	0	0	0	0	0	4	0	1	7
9:15 AM	0	0	0	1	0	0	0	0	0	3	0	3	7
9:30 AM	0	1	1	0	0	0	0	0	0	5	0	2	9
9:45 AM	0	2	0	2	1	0	0	0	0	3	0	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	10	11	16	4	0	0	0	0	42	0	17	100
APPROACH %'s :	0.00%	47.62%	52.38%	80.00%	20.00%	0.00%				71.19%	0.00%	28.81%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	3	4	6	2	0	0	0	0	14	0	6	35
PEAK HR FACTOR :		0.875			0.667			0.000			0.714		0.875

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-016 **Day:** Wednesday

BUSES

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	2	0	
3:00 PM	0	1	3	1	0	0	0	0	0	3	0	0	8
3:15 PM	0	0	2	1	0	0	0	0	0	2	0	2	7
3:30 PM	0	1	1	0	0	0	0	0	0	1	0	1	4
3:45 PM	0	1	3	2	0	0	0	0	0	4	0	1	11
4:00 PM	0	1	1	0	0	0	0	0	0	0	0	1	3
4:15 PM	0	0	4	1	0	0	0	0	0	2	0	2	9
4:30 PM	0	1	2	2	0	0	0	0	0	2	0	3	10
4:45 PM	0	1	1	1	0	0	0	0	0	2	0	1	6
5:00 PM	0	0	1	0	0	0	0	0	0	3	0	3	7
5:15 PM	0	1	2	0	0	0	0	0	0	2	0	1	6
5:30 PM	0	1	1	2	0	0	0	0	0	2	0	2	8
5:45 PM	0	1	1	1	0	0	0	0	0	2	0	2	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	9	22	11	0	0	0	0	0	25	0	19	86
APPROACH %'s :	0.00%	29.03%	70.97%	100.00%	0.00%	0.00%				56.82%	0.00%	43.18%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	3	5	3	0	0	0	0	0	9	0	7	27
PEAK HR FACTOR :		0.667			0.375			0.000			0.667		0.844

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-016 **Day:** Wednesday

HEAVY TRUCKS

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	2	0	
7:00 AM	0	1	0	0	2	2	0	0	0	0	0	0	5
7:15 AM	0	3	0	1	0	0	0	0	0	0	0	0	4
7:30 AM	0	5	1	0	2	0	0	0	0	1	0	0	9
7:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	6
8:00 AM	0	4	0	2	1	0	0	0	0	0	0	0	7
8:15 AM	0	2	0	2	2	0	0	0	0	0	0	1	7
8:30 AM	0	0	1	2	3	0	0	0	0	0	0	0	6
8:45 AM	0	5	0	1	5	0	1	0	0	1	0	1	14
9:00 AM	0	4	1	0	2	0	0	0	0	1	0	0	8
9:15 AM	0	2	0	2	6	0	0	1	0	0	1	2	14
9:30 AM	0	4	0	0	8	0	0	0	0	0	0	0	12
9:45 AM	0	2	0	1	2	0	1	0	0	0	0	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	35	3	11	36	2	2	1	0	3	1	4	98
APPROACH %'s :	0.00%	92.11%	7.89%	22.45%	73.47%	4.08%	66.67%	33.33%	0.00%	37.50%	12.50%	50.00%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	15	1	3	6	0	0	0	0	1	0	0	26
PEAK HR FACTOR :		0.667			0.750			0.000			0.250		0.722

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-016

Day: Wednesday

HEAVY TRUCKS

City: Los Angeles

Date: 4/26/2017

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	2	0	
3:00 PM	1	1	0	1	3	0	0	0	0	0	1	0	7
3:15 PM	0	0	0	0	4	0	0	0	0	1	0	0	5
3:30 PM	0	3	1	0	2	0	0	0	0	1	0	0	7
3:45 PM	1	1	0	0	0	0	1	1	0	0	0	1	5
4:00 PM	0	1	0	0	4	0	0	0	0	0	1	0	6
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	2
4:30 PM	1	1	1	1	1	0	0	0	0	1	0	0	6
4:45 PM	0	3	0	1	0	0	0	0	0	0	0	0	4
5:00 PM	1	4	0	0	2	0	0	1	0	0	0	1	9
5:15 PM	0	1	0	0	3	0	0	0	0	0	0	0	4
5:30 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
5:45 PM	0	2	0	0	1	0	0	0	0	0	1	1	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	18	2	4	23	0	1	2	0	3	3	3	63
APPROACH %'s :	16.67%	75.00%	8.33%	14.81%	85.19%	0.00%	33.33%	66.67%	0.00%	33.33%	33.33%	33.33%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	1	8	0	1	8	0	0	1	0	0	0	1	20
PEAK HR FACTOR :		0.450			0.750			0.250			0.250		0.556

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

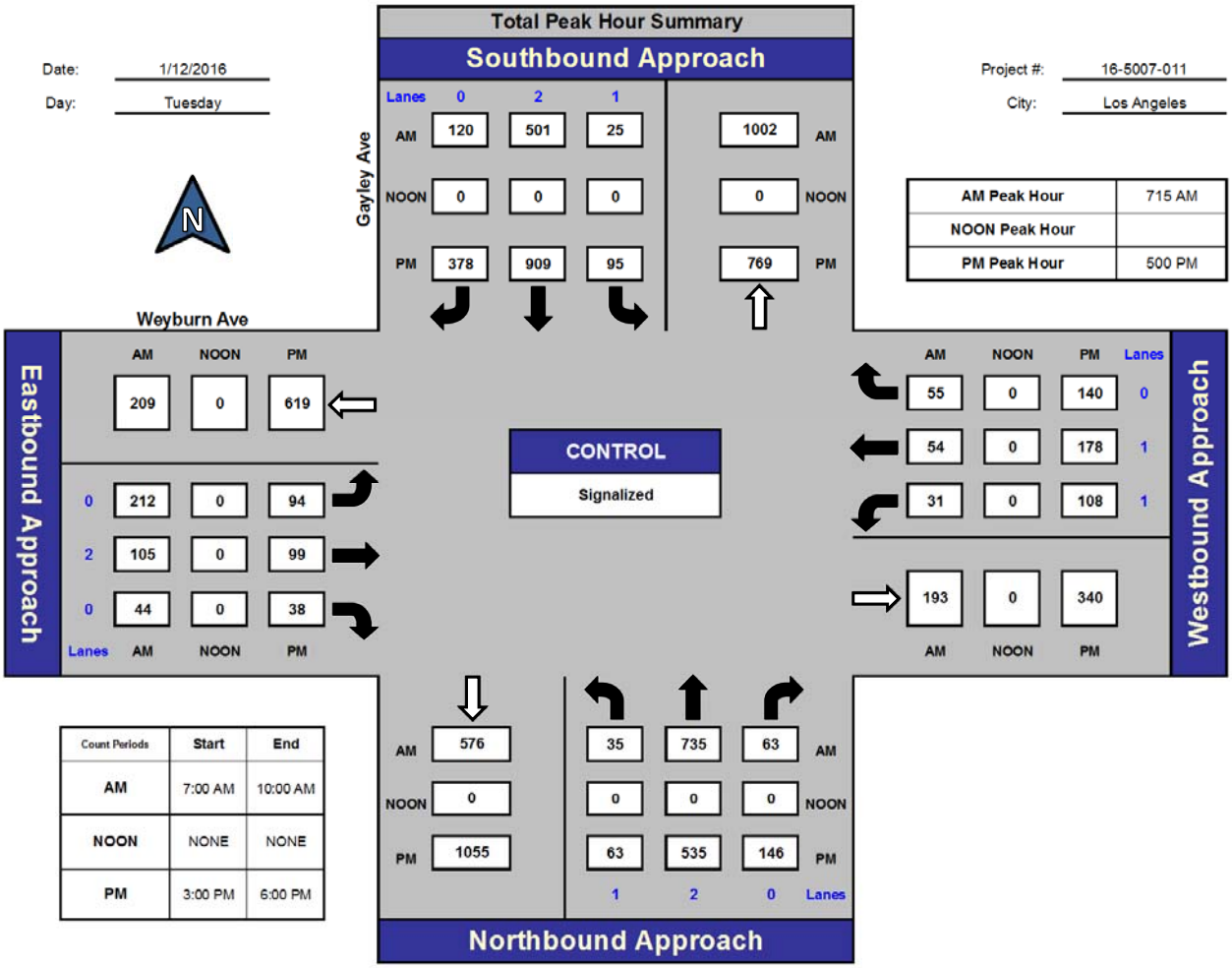
Gayley Ave and Weyburn Ave , Los Angeles

Date: 1/12/2016

Day: Tuesday

Project #: 16-5007-011

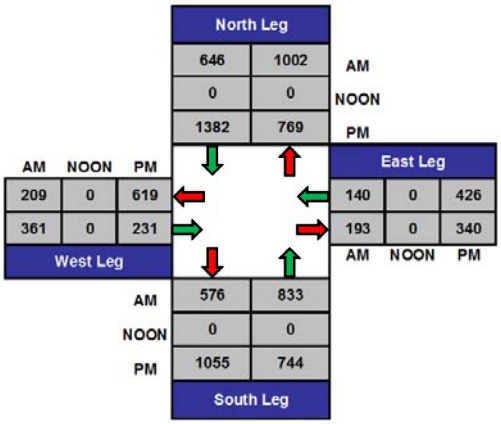
City: Los Angeles



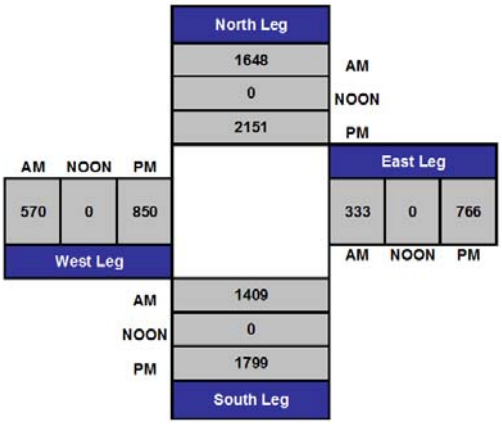
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-011

Day: Tuesday

City: Los Angeles

TOTALS

Date: 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	2	0	1	1	0	
7:00 AM	4	152	22	5	81	17	64	15	7	10	6	11	394
7:15 AM	6	174	16	2	104	21	55	25	9	10	16	17	455
7:30 AM	14	183	12	7	172	25	51	33	10	9	20	7	543
7:45 AM	7	208	17	9	134	47	59	27	10	10	8	13	549
8:00 AM	8	170	18	7	91	27	47	20	15	2	10	18	433
8:15 AM	12	147	20	8	87	22	40	26	16	16	13	9	416
8:30 AM	9	130	18	5	82	35	48	28	8	5	11	7	386
8:45 AM	5	113	28	6	108	24	48	26	16	9	8	8	399
9:00 AM	9	122	34	10	93	29	44	31	13	10	9	8	412
9:15 AM	4	132	28	10	103	17	38	30	8	12	7	6	395
9:30 AM	6	129	26	7	94	25	36	37	12	17	6	6	401
9:45 AM	10	119	36	11	80	21	32	26	12	16	7	8	378
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	94	1779	275	87	1229	310	562	324	136	126	121	118	5161
APPROACH %'s :	4.38%	82.82%	12.80%	5.35%	75.58%	19.07%	54.99%	31.70%	13.31%	34.52%	33.15%	32.33%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	35	735	63	25	501	120	212	105	44	31	54	55	1980
PEAK HR FACTOR :		0.898			0.792			0.940			0.814		0.902

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-011 **Day:** Tuesday

City: Los Angeles **Date:** 1/12/2016

TOTALS

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	2	0	1	1	0	
3:00 PM	15	120	40	11	174	67	26	17	8	22	22	28	550
3:15 PM	10	129	30	12	182	63	27	17	16	24	26	25	561
3:30 PM	18	126	37	9	214	76	27	35	8	22	40	20	632
3:45 PM	12	127	34	20	184	78	25	18	11	22	44	24	599
4:00 PM	15	125	39	24	198	66	23	22	5	29	43	24	613
4:15 PM	19	129	24	16	186	65	22	12	14	23	38	22	570
4:30 PM	12	123	26	18	211	86	19	20	8	31	28	31	613
4:45 PM	13	138	27	25	201	73	14	22	10	26	49	25	623
5:00 PM	19	132	42	24	225	112	23	28	7	27	44	33	716
5:15 PM	17	142	38	22	247	101	22	23	11	24	55	31	733
5:30 PM	11	115	35	21	221	94	26	22	13	31	36	36	661
5:45 PM	16	146	31	28	216	71	23	26	7	26	43	40	673
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	177	1552	403	230	2459	952	277	262	118	307	468	339	7544
APPROACH %'s :	8.30%	72.80%	18.90%	6.32%	67.54%	26.15%	42.16%	39.88%	17.96%	27.56%	42.01%	30.43%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	63	535	146	95	909	378	94	99	38	108	178	140	2783
PEAK HR FACTOR :		0.944			0.934			0.947			0.968		0.949

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-011

Day: Tuesday

CARS

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	2	0	1	1	0	
7:00 AM	3	147	20	5	80	16	64	15	7	10	6	10	383
7:15 AM	4	171	16	2	100	20	55	25	9	10	16	16	444
7:30 AM	13	180	12	7	169	23	51	33	10	8	20	7	533
7:45 AM	7	206	17	8	132	44	59	27	10	10	8	12	540
8:00 AM	8	167	18	7	91	21	47	20	15	2	10	16	422
8:15 AM	12	143	20	8	85	21	40	26	16	16	13	9	409
8:30 AM	9	127	18	5	81	31	48	28	8	5	10	7	377
8:45 AM	5	110	27	6	107	22	48	25	16	9	8	8	391
9:00 AM	9	119	34	10	90	27	44	31	11	10	9	8	402
9:15 AM	4	129	25	10	101	15	38	30	8	12	7	5	384
9:30 AM	6	126	26	7	88	22	36	36	12	17	6	6	388
9:45 AM	9	117	36	10	75	19	32	26	11	16	6	7	364
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	89	1742	269	85	1199	281	562	322	133	125	119	111	5037
APPROACH %'s :	4.24%	82.95%	12.81%	5.43%	76.61%	17.96%	55.26%	31.66%	13.08%	35.21%	33.52%	31.27%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	32	724	63	24	492	108	212	105	44	30	54	51	1939
PEAK HR FACTOR :		0.890			0.784			0.940			0.804		0.898

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-011

Day: Tuesday

CARS

City: Los Angeles

Date: 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	2	0	1	1	0	
3:00 PM	15	118	40	11	174	65	26	17	8	22	22	27	545
3:15 PM	10	125	30	12	181	59	27	17	16	24	26	22	549
3:30 PM	18	124	37	9	209	74	27	35	8	22	40	19	622
3:45 PM	12	126	33	20	182	77	25	18	11	22	44	23	593
4:00 PM	15	123	39	24	197	65	23	22	5	29	43	22	607
4:15 PM	19	125	24	16	184	63	22	10	14	23	38	21	559
4:30 PM	12	119	26	18	210	84	19	19	8	31	27	30	603
4:45 PM	13	133	26	25	200	71	14	22	10	26	48	24	612
5:00 PM	19	130	42	24	222	111	23	28	7	27	44	33	710
5:15 PM	16	141	38	22	247	99	22	23	11	24	55	29	727
5:30 PM	11	114	35	21	220	92	25	22	13	30	36	35	654
5:45 PM	16	144	31	28	216	70	23	25	7	26	43	39	668
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	176	1522	401	230	2442	930	276	258	118	306	466	324	7449
APPROACH %'s :	8.38%	72.51%	19.10%	6.39%	67.80%	25.82%	42.33%	39.57%	18.10%	27.92%	42.52%	29.56%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	62	529	146	95	905	372	93	98	38	107	178	136	2759
PEAK HR FACTOR :		0.945			0.932			0.954			0.975		0.949

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-5007-011
N/S Street: Gayley Ave
E/W Street: Weyburn Ave
DATE: 1/12/2016 DAY: Tuesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	15	0	8	2	2	3	16	9
7:15 AM	17	10	18	4	13	5	19	6
7:30 AM	36	3	17	12	7	8	20	4
7:45 AM	32	5	18	11	11	6	22	8
8:00 AM	19	4	8	16	10	12	24	17
8:15 AM	18	3	11	6	1	10	10	24
8:30 AM	26	2	16	15	8	9	26	13
8:45 AM	29	2	25	15	11	13	20	17
9:00 AM	25	2	20	9	10	3	25	12
9:15 AM	26	4	17	9	4	4	9	9
9:30 AM	52	12	26	9	5	2	35	12
9:45 AM	36	7	20	19	10	7	14	18
TOTALS	**331**	**54**	**204**	**127**	**92**	**82**	**240**	**149**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	1	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0
9:30 AM	0	0	1	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	23	16	27	25	18	12	14	14
3:15 PM	14	13	11	35	6	5	17	14
3:30 PM	22	22	20	13	3	2	18	27
3:45 PM	21	26	15	17	9	21	11	25
4:00 PM	18	43	31	26	24	20	37	31
4:15 PM	18	27	18	23	16	12	21	24
4:30 PM	16	27	17	20	25	12	21	37
4:45 PM	19	24	17	34	22	21	25	22
5:00 PM	23	44	17	35	24	23	32	41
5:15 PM	25	44	18	39	17	27	27	52
5:30 PM	35	34	29	47	14	11	21	50
5:45 PM	33	41	30	35	7	8	24	52
TOTALS	**267**	**361**	**250**	**349**	**185**	**174**	**268**	**389**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	2	4	1	0	0	2	4
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**2**	**4**	**1**	**0**	**0**	**2**	**5**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-011

Day: Tuesday

BIKES

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	2	0	1	1	0	
7:00 AM	1	2	0	0	1	0	2	1	0	0	0	0	7
7:15 AM	0	4	0	0	2	0	0	0	0	0	0	0	6
7:30 AM	0	8	0	0	2	0	2	1	0	0	0	2	15
7:45 AM	0	9	2	0	0	1	2	1	0	0	0	0	15
8:00 AM	0	5	1	0	0	0	0	1	1	0	0	0	8
8:15 AM	0	2	2	0	1	0	3	1	0	0	0	0	9
8:30 AM	0	14	3	0	1	0	2	2	0	0	0	0	22
8:45 AM	0	9	1	0	0	0	2	1	0	0	0	0	13
9:00 AM	0	9	1	0	1	0	3	3	0	0	0	0	17
9:15 AM	0	6	0	0	0	0	3	3	0	0	1	0	13
9:30 AM	0	8	1	0	0	0	5	3	0	1	0	0	18
9:45 AM	0	8	1	0	1	1	1	3	0	0	0	0	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	84	12	0	9	2	25	20	1	1	1	2	158
APPROACH %'s :	1.03%	86.60%	12.37%	0.00%	81.82%	18.18%	54.35%	43.48%	2.17%	25.00%	25.00%	50.00%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	26	3	0	4	1	4	3	1	0	0	2	44
PEAK HR FACTOR :		0.659			0.625			0.667			0.250		0.733

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-011 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	2	0	1	1	0	
3:00 PM	0	2	0	0	2	1	1	0	0	0	1	0	7
3:15 PM	0	2	0	0	2	1	0	0	0	0	1	0	6
3:30 PM	0	1	0	0	5	0	0	1	0	0	1	0	8
3:45 PM	0	1	0	0	3	1	0	0	0	0	2	0	7
4:00 PM	0	2	1	0	8	0	0	1	0	0	0	0	12
4:15 PM	0	3	0	0	2	0	1	3	1	3	3	0	16
4:30 PM	0	0	0	0	10	0	0	0	0	0	1	1	12
4:45 PM	0	0	0	0	6	1	0	1	0	1	1	0	10
5:00 PM	0	1	0	0	4	1	3	0	0	1	0	0	10
5:15 PM	0	2	0	0	6	2	0	0	0	0	1	0	11
5:30 PM	0	1	0	0	8	0	0	0	0	0	0	1	10
5:45 PM	0	1	0	0	11	1	0	0	0	0	1	0	14
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	16	1	0	67	8	5	6	1	5	12	2	123
APPROACH %'s :	0.00%	94.12%	5.88%	0.00%	89.33%	10.67%	41.67%	50.00%	8.33%	26.32%	63.16%	10.53%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	5	0	0	29	4	3	0	0	1	2	1	45
PEAK HR FACTOR :		0.625			0.688			0.250			1.000		0.804

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-011 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	2	0	1	1	0	
7:00 AM	1	2	0	0	0	1	0	0	0	0	0	1	5
7:15 AM	2	1	0	0	1	1	0	0	0	0	0	1	6
7:30 AM	1	2	0	0	1	2	0	0	0	0	0	0	6
7:45 AM	0	1	0	0	1	2	0	0	0	0	0	1	5
8:00 AM	0	0	0	0	0	4	0	0	0	0	0	2	6
8:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	4	0	0	0	0	0	0	4
8:45 AM	0	1	0	0	1	2	0	0	0	0	0	0	4
9:00 AM	0	1	0	0	0	2	0	0	0	0	0	0	3
9:15 AM	0	0	0	0	1	2	0	0	0	0	0	1	4
9:30 AM	0	1	0	0	1	3	0	0	0	0	0	0	5
9:45 AM	1	1	0	0	1	2	0	0	0	0	0	1	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	11	0	0	7	26	0	0	0	0	0	7	56
APPROACH %'s :	31.25%	68.75%	0.00%	0.00%	21.21%	78.79%				0.00%	0.00%	100.00%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	3	4	0	0	3	9	0	0	0	0	0	4	23
PEAK HR FACTOR :		0.583			0.750			0.000			0.500		0.958

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-011 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	2	0	1	1	0	
3:00 PM	0	2	0	0	0	2	0	0	0	0	0	1	5
3:15 PM	0	2	0	0	0	2	0	0	0	0	0	2	6
3:30 PM	0	2	0	0	0	2	0	0	0	0	0	1	5
3:45 PM	0	1	0	0	1	1	0	0	0	0	0	1	4
4:00 PM	0	2	0	0	0	1	0	0	0	0	0	1	4
4:15 PM	0	2	0	0	0	2	0	0	0	0	0	1	5
4:30 PM	0	2	0	0	0	2	0	0	0	0	0	1	5
4:45 PM	0	3	0	0	1	2	0	0	0	0	0	1	7
5:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	2
5:15 PM	0	1	0	0	0	2	0	0	0	0	0	2	5
5:30 PM	0	0	0	0	0	2	0	0	0	0	0	1	3
5:45 PM	0	2	0	0	0	1	0	0	0	0	0	1	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	20	0	0	2	20	0	0	0	0	0	13	55
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	9.09%	90.91%				0.00%	0.00%	100.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	4	0	0	0	6	0	0	0	0	0	4	14
PEAK HR FACTOR :		0.500			0.750			0.000			0.500		0.700

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-011

Day: Tuesday

HEAVY TRUCKS

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	2	0	1	1	0	
7:00 AM	0	3	2	0	1	0	0	0	0	0	0	0	6
7:15 AM	0	2	0	0	3	0	0	0	0	0	0	0	5
7:30 AM	0	1	0	0	2	0	0	0	0	1	0	0	4
7:45 AM	0	1	0	1	1	1	0	0	0	0	0	0	4
8:00 AM	0	3	0	0	0	2	0	0	0	0	0	0	5
8:15 AM	0	3	0	0	2	0	0	0	0	0	0	0	5
8:30 AM	0	3	0	0	1	0	0	0	0	0	1	0	5
8:45 AM	0	2	1	0	0	0	0	1	0	0	0	0	4
9:00 AM	0	2	0	0	3	0	0	0	2	0	0	0	7
9:15 AM	0	3	3	0	1	0	0	0	0	0	0	0	7
9:30 AM	0	2	0	0	5	0	0	1	0	0	0	0	8
9:45 AM	0	1	0	1	4	0	0	0	1	0	1	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	26	6	2	23	3	0	2	3	1	2	0	68
APPROACH %'s :	0.00%	81.25%	18.75%	7.14%	82.14%	10.71%	0.00%	40.00%	60.00%	33.33%	66.67%	0.00%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	7	0	1	6	3	0	0	0	1	0	0	18
PEAK HR FACTOR :		0.583			0.833			0.000			0.250		0.900

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-011 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	2	0	1	1	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	2	0	0	1	2	0	0	0	0	0	1	6
3:30 PM	0	0	0	0	5	0	0	0	0	0	0	0	5
3:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	2
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	1	2
4:15 PM	0	2	0	0	2	0	0	2	0	0	0	0	6
4:30 PM	0	2	0	0	1	0	0	1	0	0	1	0	5
4:45 PM	0	2	1	0	0	0	0	0	0	0	1	0	4
5:00 PM	0	1	0	0	3	0	0	0	0	0	0	0	4
5:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	1	0	0	1	0	1	0	0	1	0	0	4
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	10	2	0	15	2	1	4	0	1	2	2	40
APPROACH %'s :	7.69%	76.92%	15.38%	0.00%	88.24%	11.76%	20.00%	80.00%	0.00%	20.00%	40.00%	40.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	1	2	0	0	4	0	1	1	0	1	0	0	10
PEAK HR FACTOR :		0.750			0.333			0.500			0.250		0.625

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

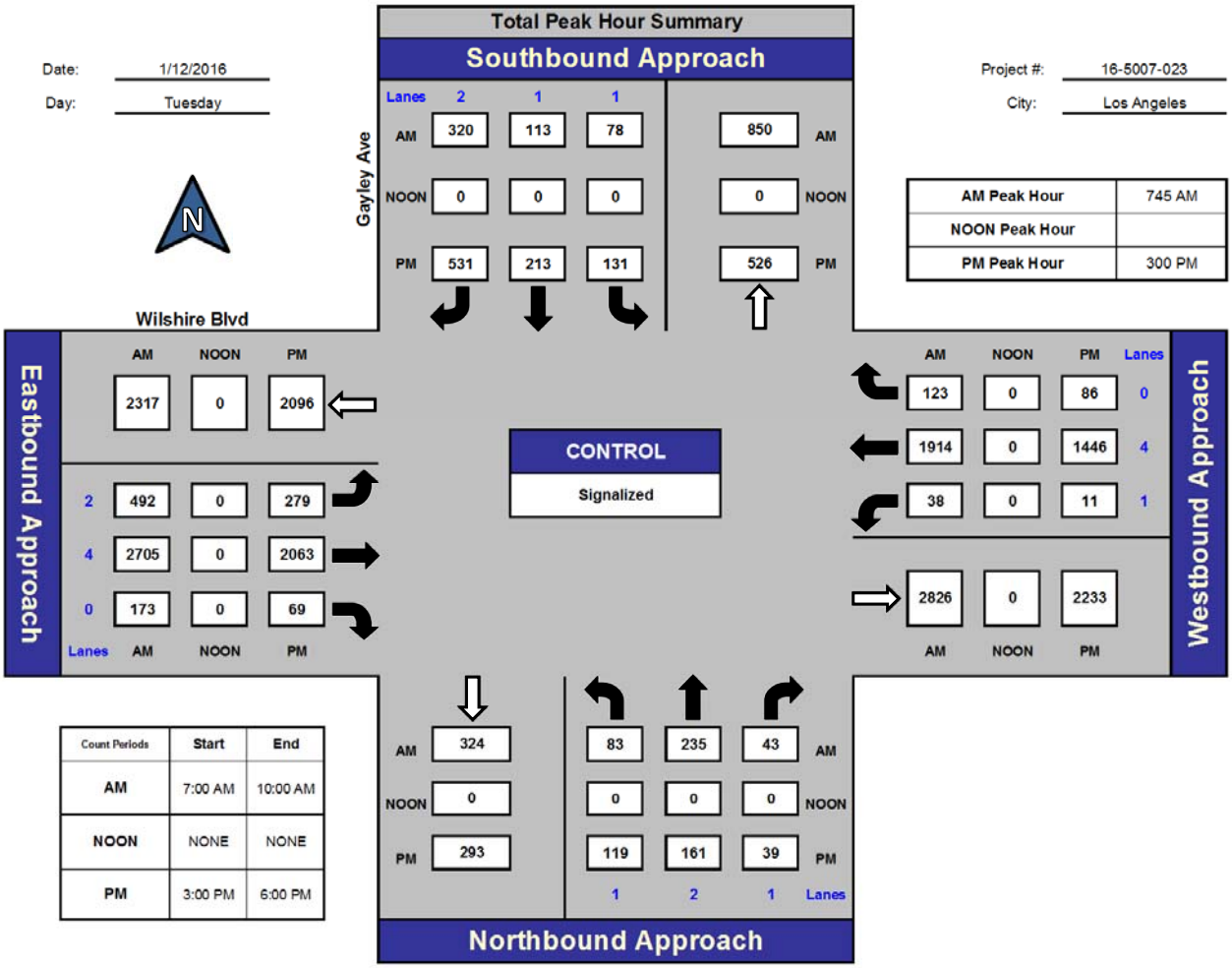
Gayley Ave and Wilshire Blvd , Los Angeles

Date: 1/12/2016

Day: Tuesday

Project #: 16-5007-023

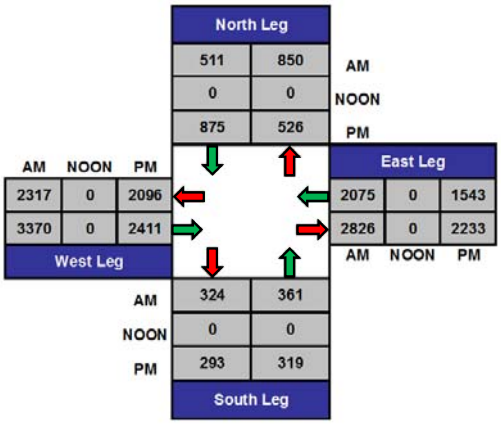
City: Los Angeles



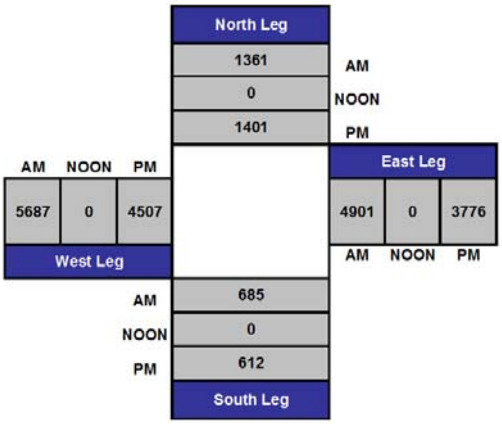
AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	300 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-023

Day: Tuesday

City: Los Angeles

TOTALS

Date: 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	1	2	2	4	0	1	4	0	
7:00 AM	19	46	8	14	18	72	118	512	25	15	394	14	1255
7:15 AM	21	48	5	10	17	64	131	512	34	9	522	26	1399
7:30 AM	18	58	5	16	23	75	138	609	34	10	459	35	1480
7:45 AM	22	86	7	16	23	75	124	651	39	12	491	33	1579
8:00 AM	16	51	19	15	34	73	131	674	30	9	484	30	1566
8:15 AM	25	46	5	20	37	84	145	653	65	9	500	31	1620
8:30 AM	20	52	12	27	19	88	92	727	39	8	439	29	1552
8:45 AM	24	72	7	27	31	72	128	647	53	14	459	24	1558
9:00 AM	15	45	10	17	42	87	82	679	45	4	432	31	1489
9:15 AM	16	25	7	18	32	56	115	679	71	10	440	19	1488
9:30 AM	24	53	14	17	32	43	108	684	33	10	490	32	1540
9:45 AM	18	46	10	18	16	50	102	633	50	9	441	34	1427
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	238	628	109	215	324	839	1414	7660	518	119	5551	338	17953
APPROACH %'s :	24.41%	64.41%	11.18%	15.60%	23.51%	60.89%	14.74%	79.86%	5.40%	1.98%	92.39%	5.63%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	83	235	43	78	113	320	492	2705	173	38	1914	123	6317
PEAK HR FACTOR :		0.785			0.906			0.976			0.961		0.975

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-023

Day: Tuesday

TOTALS

City: Los Angeles

Date: 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	1	2	2	4	0	1	4	0	
3:00 PM	26	48	10	32	50	97	90	538	18	3	358	21	1291
3:15 PM	28	40	13	41	40	176	73	506	20	5	372	20	1334
3:30 PM	41	32	11	24	65	124	59	499	12	3	353	21	1244
3:45 PM	24	41	5	34	58	134	57	520	19	0	363	24	1279
4:00 PM	23	29	12	46	67	129	74	504	22	9	259	33	1207
4:15 PM	31	38	16	37	67	89	76	515	20	9	311	35	1244
4:30 PM	17	48	17	43	65	64	80	491	20	8	308	16	1177
4:45 PM	27	52	21	38	53	121	79	519	22	7	330	16	1285
5:00 PM	54	50	23	46	63	108	55	476	27	2	282	11	1197
5:15 PM	45	46	15	38	89	94	74	528	27	5	300	17	1278
5:30 PM	54	64	24	40	69	94	82	460	26	10	293	14	1230
5:45 PM	37	52	24	43	54	70	91	417	34	3	314	34	1173
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	407	540	191	462	740	1300	890	5973	267	64	3843	262	14939
APPROACH %'s :	35.76%	47.45%	16.78%	18.47%	29.58%	51.96%	12.48%	83.77%	3.74%	1.54%	92.18%	6.28%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	119	161	39	131	213	531	279	2063	69	11	1446	86	5148
PEAK HR FACTOR :		0.949			0.851			0.933			0.972		0.965

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-023

Day: Tuesday

CARS

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	1	2	2	4	0	1	4	0	
7:00 AM	18	46	8	12	18	70	115	494	25	15	381	13	1215
7:15 AM	21	47	5	9	17	59	127	495	34	9	509	25	1357
7:30 AM	18	57	5	16	23	68	132	594	34	10	447	34	1438
7:45 AM	22	84	6	15	23	70	122	643	38	12	476	31	1542
8:00 AM	15	49	19	15	34	71	129	657	30	9	468	30	1526
8:15 AM	25	43	5	19	37	81	143	645	65	9	485	30	1587
8:30 AM	20	50	12	27	19	82	89	708	38	8	427	27	1507
8:45 AM	24	69	6	26	31	67	125	632	53	14	447	23	1517
9:00 AM	14	43	10	16	42	80	77	665	45	4	412	30	1438
9:15 AM	15	23	6	17	32	49	110	661	71	10	421	18	1433
9:30 AM	21	49	13	17	32	36	106	670	32	10	467	30	1483
9:45 AM	15	43	10	16	16	42	97	613	49	9	427	33	1370
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	228	603	105	205	324	775	1372	7477	514	119	5367	324	17413
APPROACH %'s :	24.36%	64.42%	11.22%	15.72%	24.85%	59.43%	14.65%	79.86%	5.49%	2.05%	92.38%	5.58%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	82	226	42	76	113	304	483	2653	171	38	1856	118	6162
PEAK HR FACTOR :		0.781			0.900			0.969			0.960		0.971

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-023 **Day:** Tuesday

CARS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	1	2	2	4	0	1	4	0	
3:00 PM	26	46	10	32	50	92	88	524	18	3	347	20	1256
3:15 PM	27	38	13	40	40	173	70	494	20	5	362	19	1301
3:30 PM	41	31	10	24	64	120	59	484	12	3	344	19	1211
3:45 PM	24	39	5	34	58	132	56	499	18	0	349	22	1236
4:00 PM	23	28	12	46	66	125	72	483	22	9	249	30	1165
4:15 PM	30	37	15	37	67	85	70	500	20	9	300	35	1205
4:30 PM	17	47	17	43	65	62	78	471	20	8	299	15	1142
4:45 PM	26	49	21	38	53	118	78	505	22	6	324	15	1255
5:00 PM	52	49	23	46	63	105	53	459	26	2	271	11	1160
5:15 PM	45	45	14	38	89	90	73	518	27	5	297	15	1256
5:30 PM	54	63	24	40	67	92	82	447	26	10	285	12	1202
5:45 PM	37	50	24	43	53	66	90	404	34	3	308	32	1144
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	402	522	188	461	735	1260	869	5788	265	63	3735	245	14533
APPROACH %'s :	36.15%	46.94%	16.91%	18.77%	29.93%	51.30%	12.55%	83.62%	3.83%	1.56%	92.38%	6.06%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	118	154	38	130	212	517	273	2001	68	11	1402	80	5004
PEAK HR FACTOR :		0.945			0.849			0.929			0.967		0.962

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-5007-023
N/S Street: Gayley Ave
E/W Street: Wilshire Blvd
DATE: 1/12/2016 DAY: Tuesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	28	11	16	8	15	28	2	19
7:15 AM	23	12	23	9	11	30	0	22
7:30 AM	24	4	24	16	13	37	10	12
7:45 AM	54	14	38	15	11	62	5	39
8:00 AM	14	2	43	15	12	46	13	31
8:15 AM	27	10	33	11	28	32	7	19
8:30 AM	32	16	22	16	26	41	7	12
8:45 AM	29	19	24	19	37	38	7	24
9:00 AM	19	6	24	11	12	18	8	19
9:15 AM	10	11	25	7	19	30	5	14
9:30 AM	14	6	15	15	14	30	15	12
9:45 AM	15	10	24	19	18	28	16	21
TOTALS	**289**	**121**	**311**	**161**	**216**	**420**	**95**	**244**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	2	1	0	1
7:30 AM	0	0	0	0	1	2	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	1	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	1	2	1	0	0	0
TOTALS	**0**	**0**	**1**	**2**	**4**	**4**	**0**	**1**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	8	9	18	30	30	14	13	13
3:15 PM	11	12	18	44	13	23	32	21
3:30 PM	6	25	36	34	24	13	24	24
3:45 PM	8	28	29	55	25	17	42	16
4:00 PM	11	24	32	33	33	26	30	14
4:15 PM	8	16	27	45	23	19	38	14
4:30 PM	6	44	22	38	40	23	36	35
4:45 PM	14	46	33	90	51	21	88	28
5:00 PM	9	16	30	43	26	15	30	25
5:15 PM	0	0	7	23	24	21	46	11
5:30 PM	2	2	17	17	31	19	24	8
5:45 PM	25	11	37	23	39	35	22	34
TOTALS	**108**	**233**	**306**	**475**	**359**	**246**	**425**	**243**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	1	0	0	0
3:15 PM	0	0	0	0	1	0	0	0
3:30 PM	0	0	0	1	0	1	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	2	0	1	1	0
4:15 PM	0	0	0	0	1	0	0	0
4:30 PM	0	0	5	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	1	0	1	0	0
5:15 PM	0	0	1	1	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**7**	**6**	**3**	**3**	**1**	**1**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-023 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	1	2	2	4	0	1	4	0	
7:00 AM	0	5	0	0	0	0	0	1	0	0	0	0	6
7:15 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
7:30 AM	0	9	1	0	1	0	0	0	0	0	2	0	13
7:45 AM	0	9	0	1	1	0	0	0	0	0	2	0	13
8:00 AM	0	8	0	0	0	0	0	2	0	0	0	0	10
8:15 AM	0	9	0	0	0	0	0	1	0	0	0	0	10
8:30 AM	0	18	0	0	0	0	1	0	0	0	0	0	19
8:45 AM	0	14	0	0	1	0	0	0	0	0	0	0	15
9:00 AM	0	12	0	1	1	1	0	1	0	0	0	1	17
9:15 AM	0	12	0	0	0	0	0	2	0	0	0	0	14
9:30 AM	0	11	0	0	0	0	0	2	1	0	0	0	14
9:45 AM	0	10	0	0	0	0	1	3	0	0	1	0	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	119	1	2	5	1	2	12	1	0	5	1	149
APPROACH %'s :	0.00%	99.17%	0.83%	25.00%	62.50%	12.50%	13.33%	80.00%	6.67%	0.00%	83.33%	16.67%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	44	0	1	1	0	1	3	0	0	2	0	52
PEAK HR FACTOR :		0.611			0.250			0.500			0.250		0.684

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-023 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	1	2	2	4	0	1	4	0	
3:00 PM	0	0	0	0	3	0	1	1	1	0	0	0	6
3:15 PM	0	0	0	0	2	0	0	2	0	0	0	0	4
3:30 PM	0	1	0	0	6	1	0	0	0	0	1	0	9
3:45 PM	0	6	0	0	1	0	0	2	0	0	0	0	9
4:00 PM	0	0	0	0	3	0	0	0	0	0	1	0	4
4:15 PM	0	2	0	0	5	0	0	4	0	0	1	0	12
4:30 PM	0	0	0	0	3	1	0	1	0	0	0	0	5
4:45 PM	0	0	0	0	3	0	0	3	0	0	0	0	6
5:00 PM	0	2	0	0	5	0	0	2	0	0	3	1	13
5:15 PM	0	2	0	0	3	0	0	1	0	0	1	0	7
5:30 PM	0	0	0	1	8	0	0	0	0	0	1	0	10
5:45 PM	0	4	0	0	4	0	0	1	0	0	0	0	9
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	17	0	1	46	2	1	17	1	0	8	1	94
APPROACH %'s :	0.00%	100.00%	0.00%	2.04%	93.88%	4.08%	5.26%	89.47%	5.26%	0.00%	88.89%	11.11%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	7	0	0	12	1	1	5	1	0	1	0	28
PEAK HR FACTOR :		0.292			0.464			0.583			0.250		0.778

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-023

Day: Tuesday

BUSES

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	1	2	2	4	0	1	4	0	
7:00 AM	0	0	0	1	0	2	0	9	0	0	8	1	21
7:15 AM	0	0	0	1	0	1	1	8	0	0	8	1	20
7:30 AM	0	1	0	0	0	4	2	6	0	0	6	1	20
7:45 AM	0	2	0	1	0	3	0	4	0	0	9	1	20
8:00 AM	0	2	0	0	0	1	1	10	0	0	9	0	23
8:15 AM	0	2	0	1	0	2	0	5	0	0	7	0	17
8:30 AM	0	2	0	0	0	3	2	9	0	0	8	1	25
8:45 AM	0	3	0	1	0	4	1	7	0	0	7	1	24
9:00 AM	0	2	0	0	0	2	2	7	0	0	12	0	25
9:15 AM	0	2	0	1	0	5	2	6	0	0	9	1	26
9:30 AM	0	3	0	0	0	2	1	6	0	0	11	1	24
9:45 AM	0	1	0	1	0	3	1	9	0	0	5	0	20
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	20	0	7	0	32	13	86	0	0	99	8	265
APPROACH %'s :	0.00%	100.00%	0.00%	17.95%	0.00%	82.05%	13.13%	86.87%	0.00%	0.00%	92.52%	7.48%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	8	0	2	0	9	3	28	0	0	33	2	85
PEAK HR FACTOR :		1.000			0.688			0.705			0.875		0.850

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-023 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	1	2	2	4	0	1	4	0	
3:00 PM	0	1	0	0	0	2	1	9	0	0	7	1	21
3:15 PM	0	2	0	0	0	3	2	6	0	0	5	0	18
3:30 PM	0	1	0	0	0	3	0	9	0	0	5	2	20
3:45 PM	0	0	0	0	0	1	1	12	0	0	7	1	22
4:00 PM	0	1	0	0	0	3	2	16	0	0	5	3	30
4:15 PM	0	1	0	0	0	4	4	8	0	0	8	0	25
4:30 PM	0	1	0	0	0	2	0	16	0	0	6	1	26
4:45 PM	0	1	0	0	0	3	1	10	0	0	5	1	21
5:00 PM	0	1	0	0	0	2	1	13	0	0	7	0	24
5:15 PM	0	1	0	0	0	4	1	9	0	0	3	2	20
5:30 PM	0	1	0	0	1	2	0	11	0	0	6	1	22
5:45 PM	0	1	0	0	0	4	1	8	0	0	3	2	19
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	12	0	0	1	33	14	127	0	0	67	14	268
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	2.94%	97.06%	9.93%	90.07%	0.00%	0.00%	82.72%	17.28%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	4	0	0	0	9	4	36	0	0	24	4	81
PEAK HR FACTOR :		0.500			0.750			0.769			0.875		0.920

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-023

Day: Tuesday

HEAVY TRUCKS

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Gayley Ave			Gayley Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	1	2	2	4	0	1	4	0	
7:00 AM	1	0	0	1	0	0	3	9	0	0	5	0	19
7:15 AM	0	1	0	0	0	4	3	9	0	0	5	0	22
7:30 AM	0	0	0	0	0	3	4	9	0	0	6	0	22
7:45 AM	0	0	1	0	0	2	2	4	1	0	6	1	17
8:00 AM	1	0	0	0	0	1	1	7	0	0	7	0	17
8:15 AM	0	1	0	0	0	1	2	3	0	0	8	1	16
8:30 AM	0	0	0	0	0	3	1	10	1	0	4	1	20
8:45 AM	0	0	1	0	0	1	2	8	0	0	5	0	17
9:00 AM	1	0	0	1	0	5	3	7	0	0	8	1	26
9:15 AM	1	0	1	0	0	2	3	12	0	0	10	0	29
9:30 AM	3	1	1	0	0	5	1	8	1	0	12	1	33
9:45 AM	3	2	0	1	0	5	4	11	1	0	9	1	37

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	10	5	4	3	0	32	29	97	4	0	85	6	275
APPROACH %'s :	52.63%	26.32%	21.05%	8.57%	0.00%	91.43%	22.31%	74.62%	3.08%	0.00%	93.41%	6.59%	

PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	1	1	0	0	7	6	24	2	0	25	3	70
PEAK HR FACTOR :		0.750			0.583			0.667			0.778		0.875

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-023

Day: Tuesday

HEAVY TRUCKS

City: Los Angeles

Date: 1/12/2016

PM

NS/EW Streets:	Gayley Ave			Gayley Ave			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	1	2	2	4	0	1	4	0	
3:00 PM	0	1	0	0	0	3	1	5	0	0	4	0	14
3:15 PM	1	0	0	1	0	0	1	6	0	0	5	1	15
3:30 PM	0	0	1	0	1	1	0	6	0	0	4	0	13
3:45 PM	0	2	0	0	0	1	0	9	1	0	7	1	21
4:00 PM	0	0	0	0	1	1	0	5	0	0	5	0	12
4:15 PM	1	0	1	0	0	0	2	7	0	0	3	0	14
4:30 PM	0	0	0	0	0	0	2	4	0	0	3	0	9
4:45 PM	1	2	0	0	0	0	0	4	0	1	1	0	9
5:00 PM	2	0	0	0	0	1	1	4	1	0	4	0	13
5:15 PM	0	0	1	0	0	0	0	1	0	0	0	0	2
5:30 PM	0	0	0	0	1	0	0	2	0	0	2	1	6
5:45 PM	0	1	0	0	1	0	0	5	0	0	3	0	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	6	3	1	4	7	7	58	2	1	41	3	138
APPROACH %'s :	35.71%	42.86%	21.43%	8.33%	33.33%	58.33%	10.45%	86.57%	2.99%	2.22%	91.11%	6.67%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	1	3	1	1	1	5	2	26	1	0	20	2	63
PEAK HR FACTOR :		0.625			0.583			0.725			0.688		0.750

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Westwood Plaza and Sunset Blvd , Los Angeles

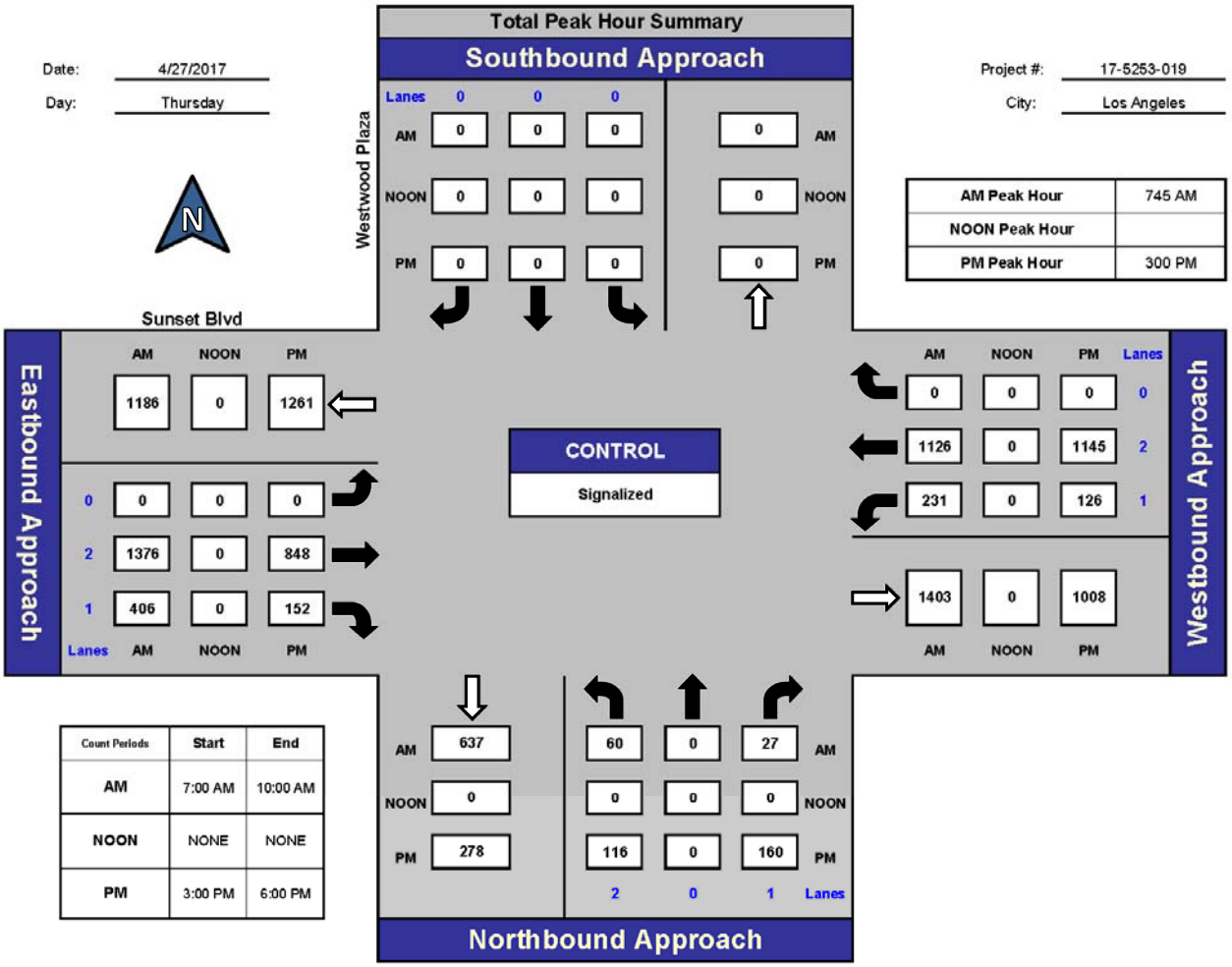
Date: 4/27/2017

Day: Thursday

Project #: 17-5253-019

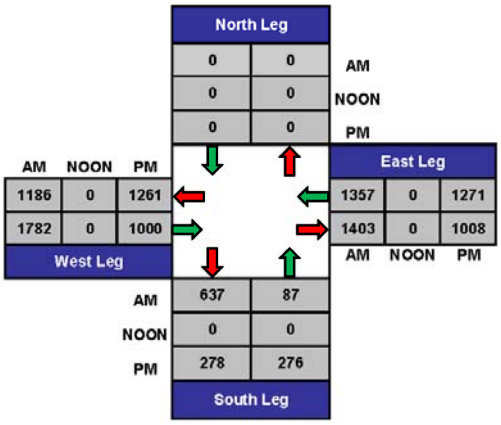
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	300 PM

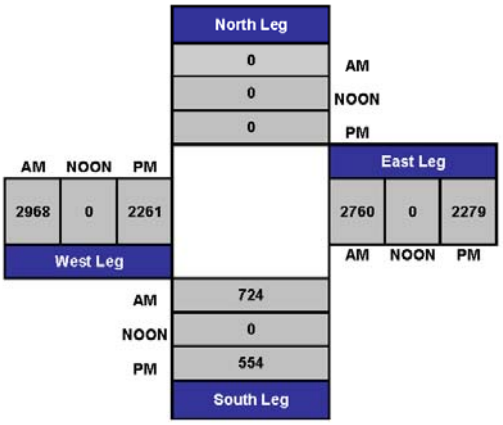


Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-019

Day: Thursday

City: Los Angeles

TOTALS

Date: 4/27/2017

AM

NS/EW Streets:	Westwood Plaza			Westwood Plaza			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	1	1	2	0	
7:00 AM	6	0	7	0	0	0	0	213	61	36	211	0	534
7:15 AM	10	0	7	0	0	0	0	243	73	45	251	0	629
7:30 AM	9	0	3	0	0	0	0	308	100	44	266	0	730
7:45 AM	12	0	6	0	0	0	0	367	87	52	288	0	812
8:00 AM	12	0	6	0	0	0	0	334	114	57	274	0	797
8:15 AM	23	0	8	0	0	0	0	333	119	68	303	0	854
8:30 AM	13	0	7	0	0	0	0	342	86	54	261	0	763
8:45 AM	15	0	7	0	0	0	0	357	93	51	282	0	805
9:00 AM	21	0	9	0	0	0	0	349	97	33	264	0	773
9:15 AM	15	0	9	0	0	0	0	321	98	41	278	0	762
9:30 AM	22	0	8	0	0	0	0	290	87	57	258	0	722
9:45 AM	16	0	16	0	0	0	0	348	81	27	279	0	767
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	174	0	93	0	0	0	0	3805	1096	565	3215	0	8948
APPROACH %'s :	65.17%	0.00%	34.83%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	77.64%	22.36%	14.95%	85.05%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	60	0	27	0	0	0	0	1376	406	231	1126	0	3226
PEAK HR FACTOR :		0.702			0.000			0.981			0.914		0.944

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-019

Day: Thursday

TOTALS

City: Los Angeles

Date: 4/27/2017

PM

NS/EW Streets:	Westwood Plaza			Westwood Plaza			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	1	1	2	0	
3:00 PM	40	0	44	0	0	0	0	213	45	28	303	0	673
3:15 PM	22	0	36	0	0	0	0	226	38	30	312	0	664
3:30 PM	34	0	48	0	0	0	0	201	29	32	254	0	598
3:45 PM	20	0	32	0	0	0	0	208	40	36	276	0	612
4:00 PM	49	0	41	0	0	0	0	134	26	24	268	0	542
4:15 PM	21	0	55	0	0	0	0	168	32	13	304	0	593
4:30 PM	46	0	43	0	0	0	0	146	28	23	240	0	526
4:45 PM	36	0	66	0	0	0	0	156	33	18	251	0	560
5:00 PM	57	0	70	0	0	0	0	178	25	32	249	0	611
5:15 PM	49	0	54	0	0	0	0	186	35	28	247	0	599
5:30 PM	44	0	51	0	0	0	0	164	16	28	225	0	528
5:45 PM	32	0	47	0	0	0	0	179	37	20	247	0	562
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	450	0	587	0	0	0	0	2159	384	312	3176	0	7068
APPROACH %'s :	43.39%	0.00%	56.61%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	84.90%	15.10%	8.94%	91.06%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	116	0	160	0	0	0	0	848	152	126	1145	0	2547
PEAK HR FACTOR :		0.821			0.000			0.947			0.929		0.946

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-019

Day: Thursday

CARS

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Westwood Plaza			Westwood Plaza			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	1	1	2	0	
7:00 AM	6	0	7	0	0	0	0	205	61	36	207	0	522
7:15 AM	10	0	7	0	0	0	0	231	73	45	240	0	606
7:30 AM	9	0	3	0	0	0	0	293	100	44	252	0	701
7:45 AM	12	0	6	0	0	0	0	359	87	52	277	0	793
8:00 AM	12	0	6	0	0	0	0	328	114	57	264	0	781
8:15 AM	23	0	8	0	0	0	0	323	119	68	297	0	838
8:30 AM	13	0	7	0	0	0	0	331	86	54	250	0	741
8:45 AM	15	0	7	0	0	0	0	347	93	51	277	0	790
9:00 AM	20	0	9	0	0	0	0	341	97	32	256	0	755
9:15 AM	15	0	9	0	0	0	0	313	95	41	267	0	740
9:30 AM	22	0	8	0	0	0	0	284	84	57	247	0	702
9:45 AM	16	0	15	0	0	0	0	341	81	26	266	0	745
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	173	0	92	0	0	0	0	3696	1090	563	3100	0	8714
APPROACH %'s :	65.28%	0.00%	34.72%				0.00%	77.23%	22.77%	15.37%	84.63%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	60	0	27	0	0	0	0	1341	406	231	1088	0	3153
PEAK HR FACTOR :		0.702			0.000			0.979			0.903		0.941

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-019 **Day:** Thursday

CARS

City: Los Angeles **Date:** 4/27/2017

PM

NS/EW Streets:	Westwood Plaza			Westwood Plaza			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	1	1	2	0	
3:00 PM	39	0	43	0	0	0	0	210	44	28	298	0	662
3:15 PM	22	0	36	0	0	0	0	220	37	30	304	0	649
3:30 PM	33	0	48	0	0	0	0	196	29	30	246	0	582
3:45 PM	20	0	32	0	0	0	0	204	40	35	270	0	601
4:00 PM	49	0	41	0	0	0	0	131	26	24	266	0	537
4:15 PM	21	0	55	0	0	0	0	164	32	13	295	0	580
4:30 PM	46	0	43	0	0	0	0	143	26	22	232	0	512
4:45 PM	36	0	66	0	0	0	0	156	33	18	246	0	555
5:00 PM	57	0	70	0	0	0	0	174	25	32	244	0	602
5:15 PM	49	0	54	0	0	0	0	182	35	28	241	0	589
5:30 PM	44	0	51	0	0	0	0	161	16	28	223	0	523
5:45 PM	32	0	47	0	0	0	0	178	37	19	237	0	550
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	448	0	586	0	0	0	0	2119	380	307	3102	0	6942
APPROACH %'s :	43.33%	0.00%	56.67%				0.00%	84.79%	15.21%	9.01%	90.99%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	114	0	159	0	0	0	0	830	150	123	1118	0	2494
PEAK HR FACTOR :		0.832			0.000			0.953			0.929		0.942

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-5253-019
N/S Street: Westwood Plaza
E/W Street: Sunset Blvd
DATE: 4/27/2017 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	2	0	0	0	0
7:15 AM	0	0	0	1	4	0	0	0
7:30 AM	0	0	1	1	1	0	0	0
7:45 AM	0	0	4	1	7	0	0	0
8:00 AM	0	0	3	1	1	1	0	0
8:15 AM	0	0	3	1	0	1	0	0
8:30 AM	0	0	3	0	0	1	0	0
8:45 AM	0	0	1	1	3	0	0	0
9:00 AM	0	0	4	4	0	2	0	0
9:15 AM	0	0	5	3	0	2	0	0
9:30 AM	0	0	1	0	1	0	0	0
9:45 AM	0	0	3	2	1	0	0	0
TOTALS	**0**	**0**	**28**	**17**	**18**	**7**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	5	0	0	0
7:45 AM	0	0	0	0	5	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	1	0	0	0
9:15 AM	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	1	1	1	0	0
3:15 PM	0	0	2	1	0	4	0	0
3:30 PM	0	0	1	0	0	2	0	0
3:45 PM	0	0	2	0	0	0	0	0
4:00 PM	0	0	0	4	2	1	0	0
4:15 PM	0	0	5	1	2	0	0	0
4:30 PM	0	0	1	2	0	2	0	0
4:45 PM	0	0	8	2	0	0	0	0
5:00 PM	0	0	3	0	1	0	0	0
5:15 PM	0	0	6	4	0	1	0	0
5:30 PM	0	0	6	5	0	0	0	0
5:45 PM	0	0	5	3	0	0	0	0
TOTALS	**0**	**0**	**39**	**23**	**6**	**11**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	1	0	5	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	3	0	3	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	2	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**4**	**2**	**9**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-019 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 4/27/2017

AM

NS/EW Streets:	Westwood Plaza			Westwood Plaza			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	1	1	2	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	1	0	0	1	0	2
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	0	0	1	0	2
PEAK HR FACTOR :		0.000			0.000			0.250			0.250		0.250

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-019 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 4/27/2017

PM

NS/EW Streets:	Westwood Plaza			Westwood Plaza			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	1	1	2	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	1	0	0	0	0	1
APPROACH %'s :							0.00%	100.00%	0.00%				
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :		0.000			0.000			0.000			0.000		0.000

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-019

Day: Thursday

BUSES

City: Los Angeles

Date: 4/27/2017

AM

NS/EW Streets:	Westwood Plaza			Westwood Plaza			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	1	1	2	0	
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
7:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
9:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
9:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
9:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
9:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	10	0	0	8	0	18
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	3	0	0	2	0	5
PEAK HR FACTOR :		0.000			0.000			0.375			0.500		0.625

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-019 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 4/27/2017

PM

NS/EW Streets:	Westwood Plaza			Westwood Plaza			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	1	1	2	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
3:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
3:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	9	0	0	10	0	19
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	3	0	0	3	0	6
PEAK HR FACTOR :		0.000			0.000			0.750			0.750		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-019 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 4/27/2017

AM

NS/EW Streets:	Westwood Plaza			Westwood Plaza			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	1	1	2	0	
7:00 AM	0	0	0	0	0	0	0	7	0	0	4	0	11
7:15 AM	0	0	0	0	0	0	0	12	0	0	10	0	22
7:30 AM	0	0	0	0	0	0	0	14	0	0	13	0	27
7:45 AM	0	0	0	0	0	0	0	6	0	0	11	0	17
8:00 AM	0	0	0	0	0	0	0	6	0	0	9	0	15
8:15 AM	0	0	0	0	0	0	0	9	0	0	6	0	15
8:30 AM	0	0	0	0	0	0	0	11	0	0	10	0	21
8:45 AM	0	0	0	0	0	0	0	9	0	0	4	0	13
9:00 AM	1	0	0	0	0	0	0	7	0	1	7	0	16
9:15 AM	0	0	0	0	0	0	0	7	3	0	10	0	20
9:30 AM	0	0	0	0	0	0	0	5	3	0	11	0	19
9:45 AM	0	0	1	0	0	0	0	6	0	1	12	0	20
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	0	1	0	0	0	0	99	6	2	107	0	216
APPROACH %'s :	50.00%	0.00%	50.00%				0.00%	94.29%	5.71%	1.83%	98.17%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	32	0	0	36	0	68
PEAK HR FACTOR :	0.000			0.000			0.727			0.818			0.810

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-019

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 4/27/2017

PM

NS/EW Streets:	Westwood Plaza			Westwood Plaza			Sunset Blvd			Sunset Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	1	1	2	0	
3:00 PM	1	0	1	0	0	0	0	3	1	0	5	0	11
3:15 PM	0	0	0	0	0	0	0	5	1	0	7	0	13
3:30 PM	1	0	0	0	0	0	0	4	0	2	7	0	14
3:45 PM	0	0	0	0	0	0	0	3	0	1	5	0	9
4:00 PM	0	0	0	0	0	0	0	2	0	0	2	0	4
4:15 PM	0	0	0	0	0	0	0	3	0	0	8	0	11
4:30 PM	0	0	0	0	0	0	0	2	2	1	7	0	12
4:45 PM	0	0	0	0	0	0	0	0	0	0	4	0	4
5:00 PM	0	0	0	0	0	0	0	3	0	0	3	0	6
5:15 PM	0	0	0	0	0	0	0	4	0	0	5	0	9
5:30 PM	0	0	0	0	0	0	0	2	0	0	2	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	1	9	0	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	0	1	0	0	0	0	31	4	5	64	0	107
APPROACH %'s :	66.67%	0.00%	33.33%				0.00%	88.57%	11.43%	7.25%	92.75%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	2	0	1	0	0	0	0	15	2	3	24	0	47
PEAK HR FACTOR :	0.375			0.000			0.708			0.750			0.839

CONTROL : Signalized

ITM Peak Hour Summary

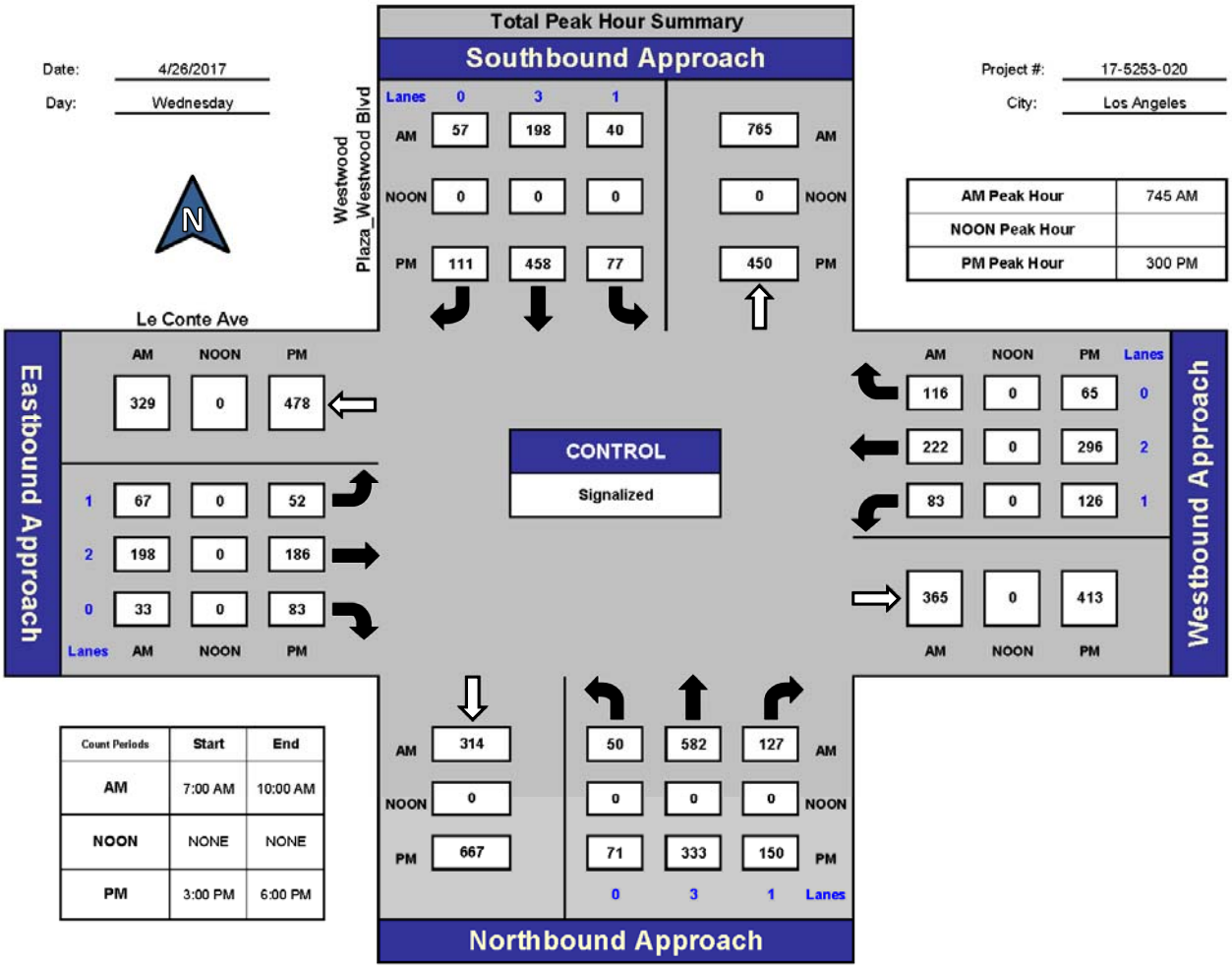
Prepared by:

National Data & Surveying Services

Westwood Plaza Westwood Blvd and Le Conte Ave , Los Angeles

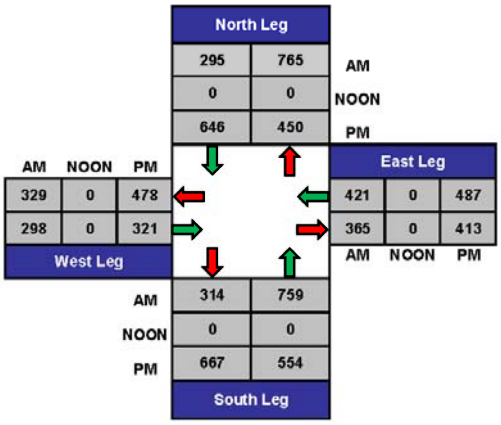
Date: 4/26/2017
Day: Wednesday
Project #: 17-5253-020
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	300 PM

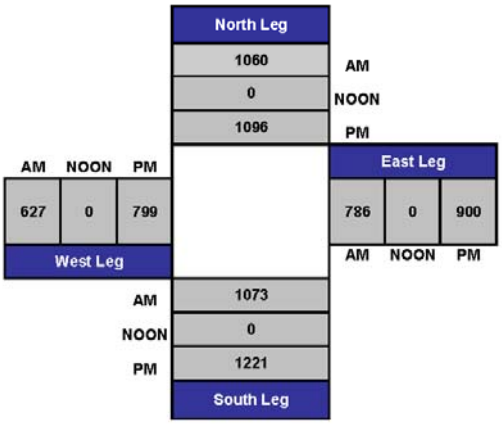


Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-020 **Day:** Wednesday

TOTALS

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Westwood Plaza_Westwood Blvd			Westwood Plaza_Westwood Blvd			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	1	3	0	1	2	0	1	2	0	
7:00 AM	16	100	34	7	49	5	11	31	6	16	35	19	329
7:15 AM	9	122	31	8	33	10	11	30	8	8	38	17	325
7:30 AM	17	165	43	13	43	11	10	42	10	14	38	22	428
7:45 AM	15	159	23	10	44	18	19	47	8	15	62	27	447
8:00 AM	15	137	43	13	54	16	11	51	9	23	70	34	476
8:15 AM	10	146	29	11	44	4	18	52	8	21	48	24	415
8:30 AM	10	140	32	6	56	19	19	48	8	24	42	31	435
8:45 AM	9	125	34	10	69	16	12	31	6	22	42	24	400
9:00 AM	9	106	34	10	65	17	15	57	9	35	49	21	427
9:15 AM	14	128	44	9	71	13	18	40	12	19	51	15	434
9:30 AM	6	130	34	17	79	16	15	53	9	22	39	26	446
9:45 AM	9	134	32	11	75	21	17	33	9	27	46	21	435
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	139	1592	413	125	682	166	176	515	102	246	560	281	4997
APPROACH %'s :	6.48%	74.25%	19.26%	12.85%	70.09%	17.06%	22.19%	64.94%	12.86%	22.63%	51.52%	25.85%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	50	582	127	40	198	57	67	198	33	83	222	116	1773
PEAK HR FACTOR :		0.963			0.889			0.955			0.829		0.931

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-020 **Day:** Wednesday

City: Los Angeles **Date:** 4/26/2017

TOTALS

PM

NS/EW Streets:	Westwood Plaza_Westwood Blvd			Westwood Plaza_Westwood Blvd			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	1	3	0	1	2	0	1	2	0	
3:00 PM	18	79	42	21	118	30	12	44	26	34	84	16	524
3:15 PM	17	90	39	16	108	22	12	48	19	29	78	15	493
3:30 PM	17	97	37	23	132	35	14	51	18	34	66	14	538
3:45 PM	19	67	32	17	100	24	14	43	20	29	68	20	453
4:00 PM	15	73	36	15	103	21	5	57	19	25	84	18	471
4:15 PM	9	71	44	21	97	22	8	50	21	27	78	15	463
4:30 PM	16	79	40	24	103	27	12	55	17	34	86	12	505
4:45 PM	11	70	37	22	102	19	17	60	21	27	61	11	458
5:00 PM	15	74	40	15	104	36	8	56	16	32	87	15	498
5:15 PM	14	76	52	13	97	23	8	67	19	42	93	13	517
5:30 PM	24	73	33	20	88	20	11	61	11	28	72	10	451
5:45 PM	21	75	46	9	88	21	13	59	18	35	91	12	488
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	196	924	478	216	1240	300	134	651	225	376	948	171	5859
APPROACH %'s :	12.27%	57.82%	29.91%	12.30%	70.62%	17.08%	13.27%	64.46%	22.28%	25.15%	63.41%	11.44%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	71	333	150	77	458	111	52	186	83	126	296	65	2008
PEAK HR FACTOR :		0.917			0.850			0.967			0.909		0.933

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-020 **Day:** Wednesday

CARS

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Westwood Plaza_Westwood Blvd			Westwood Plaza_Westwood Blvd			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	1	3	0	1	2	0	1	2	0	
7:00 AM	16	95	31	5	42	3	10	30	4	12	35	18	301
7:15 AM	8	112	24	7	29	8	11	28	7	2	37	15	288
7:30 AM	17	154	39	12	39	9	10	41	8	7	36	21	393
7:45 AM	15	151	17	10	37	16	19	45	7	8	59	27	411
8:00 AM	14	127	38	13	47	12	10	48	8	16	66	34	433
8:15 AM	9	134	25	11	36	2	18	50	6	15	45	22	373
8:30 AM	9	129	27	6	49	17	19	44	6	19	40	30	395
8:45 AM	9	114	28	9	59	12	12	31	4	16	39	24	357
9:00 AM	8	96	30	10	59	13	15	56	8	28	47	21	391
9:15 AM	12	119	39	8	63	11	17	37	11	14	46	12	389
9:30 AM	6	118	29	15	70	13	15	52	9	15	35	25	402
9:45 AM	9	124	27	11	67	20	17	30	8	22	44	20	399
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	132	1473	354	117	597	136	173	492	86	174	529	269	4532
APPROACH %'s :	6.74%	75.19%	18.07%	13.76%	70.24%	16.00%	23.04%	65.51%	11.45%	17.90%	54.42%	27.67%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	47	541	107	40	169	47	66	187	27	58	210	113	1612
PEAK HR FACTOR :		0.949			0.889			0.946			0.821		0.931

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-020 **Day:** Wednesday

CARS

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Westwood Plaza_Westwood Blvd			Westwood Plaza_Westwood Blvd			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	1	3	0	1	2	0	1	2	0	
3:00 PM	18	73	38	20	109	27	12	41	26	28	83	16	491
3:15 PM	16	80	32	16	103	20	9	47	19	22	77	15	456
3:30 PM	17	92	33	23	128	33	14	49	17	28	65	13	512
3:45 PM	17	59	29	17	90	20	13	41	20	21	67	19	413
4:00 PM	14	63	30	15	96	20	5	53	19	19	83	18	435
4:15 PM	8	63	37	21	91	20	7	50	19	22	78	14	430
4:30 PM	13	73	34	23	97	25	11	49	17	28	84	12	466
4:45 PM	11	65	31	22	96	17	16	58	20	20	61	11	428
5:00 PM	12	64	34	14	95	33	8	55	16	26	86	15	458
5:15 PM	13	72	46	13	90	21	8	66	18	34	93	13	487
5:30 PM	22	66	27	20	83	18	11	57	11	21	71	10	417
5:45 PM	19	68	39	8	82	19	13	58	18	30	89	12	455
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	180	838	410	212	1160	273	127	624	220	299	937	168	5448
APPROACH %'s :	12.61%	58.68%	28.71%	12.89%	70.52%	16.60%	13.08%	64.26%	22.66%	21.30%	66.74%	11.97%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	68	304	132	76	430	100	48	178	82	99	292	63	1872
PEAK HR FACTOR :		0.887			0.823			0.963			0.894		0.914

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-5253-020
N/S Street: Westwood Plaza_Westwood Blvd
E/W Street: Le Conte Ave
DATE: 4/26/2017 DAY: Wednesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	1	4	4	3	19	7	10	6
7:15 AM	1	3	4	5	25	11	14	8
7:30 AM	0	4	5	3	24	13	11	4
7:45 AM	7	4	11	4	32	21	10	3
8:00 AM	4	6	4	1	20	15	10	5
8:15 AM	6	9	7	3	38	14	20	12
8:30 AM	5	13	3	3	52	10	13	9
8:45 AM	2	6	8	4	41	12	14	7
9:00 AM	2	0	6	6	11	16	11	45
9:15 AM	3	8	5	2	37	5	3	7
9:30 AM	6	5	5	0	22	10	2	9
9:45 AM	3	5	7	7	27	11	13	19
TOTALS	**40**	**67**	**69**	**41**	**348**	**145**	**131**	**134**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	15	11	4	1
7:15 AM	2	0	0	0	21	0	5	3
7:30 AM	14	10	1	0	34	10	0	18
7:45 AM	8	1	0	0	26	7	9	6
8:00 AM	1	0	0	0	24	0	2	11
8:15 AM	2	0	0	0	8	1	0	1
8:30 AM	0	2	1	0	16	2	4	4
8:45 AM	4	0	0	0	5	2	1	6
9:00 AM	0	0	2	0	1	2	2	11
9:15 AM	4	2	1	1	25	12	7	6
9:30 AM	6	0	0	0	37	18	2	11
9:45 AM	5	2	2	1	33	6	1	2
TOTALS	**46**	**17**	**7**	**2**	**245**	**71**	**37**	**80**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	8	10	18	16	55	35	16	37
3:15 PM	6	12	22	17	36	49	18	46
3:30 PM	6	12	23	26	39	66	23	35
3:45 PM	1	5	10	25	37	57	36	46
4:00 PM	6	6	13	26	43	41	12	49
4:15 PM	3	4	22	28	26	46	25	27
4:30 PM	1	8	14	22	29	54	28	45
4:45 PM	3	14	21	16	20	57	17	48
5:00 PM	5	12	18	21	31	80	9	81
5:15 PM	4	9	21	9	23	59	18	55
5:30 PM	1	6	20	26	101	54	17	50
5:45 PM	3	10	15	22	45	54	15	55
TOTALS	**47**	**108**	**217**	**254**	**485**	**652**	**234**	**574**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	3	0	6	3	7
3:15 PM	0	0	2	6	5	6	1	12
3:30 PM	0	0	0	3	1	9	1	0
3:45 PM	0	0	0	5	2	4	2	6
4:00 PM	0	0	0	2	1	4	1	20
4:15 PM	1	0	0	1	2	4	1	15
4:30 PM	0	0	0	1	2	6	3	4
4:45 PM	0	0	0	1	1	3	0	7
5:00 PM	0	0	1	3	2	6	1	2
5:15 PM	0	0	4	1	2	10	1	20
5:30 PM	0	0	0	0	11	1	0	0
5:45 PM	2	1	0	0	0	4	0	2
TOTALS	**3**	**1**	**7**	**26**	**29**	**63**	**14**	**95**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-020 **Day:** Wednesday

BIKES

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Westwood Plaza_Westwood Blvd			Westwood Plaza_Westwood Blvd			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	1	3	0	1	2	0	1	2	0	
7:00 AM	0	1	0	0	1	1	2	1	0	0	0	0	6
7:15 AM	0	1	0	0	0	0	4	0	0	0	2	0	7
7:30 AM	0	4	0	0	0	0	4	0	0	0	0	0	8
7:45 AM	1	8	0	0	4	0	3	2	0	0	0	1	19
8:00 AM	0	13	0	0	0	0	2	0	0	0	0	1	16
8:15 AM	0	7	1	0	0	0	4	1	0	0	0	0	13
8:30 AM	0	12	0	1	1	0	6	0	0	0	0	1	21
8:45 AM	0	13	0	0	1	0	5	1	0	0	0	0	20
9:00 AM	0	14	0	0	2	0	6	1	0	0	0	0	23
9:15 AM	0	12	1	0	2	1	4	1	0	0	0	0	21
9:30 AM	0	11	0	0	0	0	5	2	0	0	1	1	20
9:45 AM	0	16	0	0	2	0	10	3	0	0	0	1	32
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	112	2	1	13	2	55	12	0	0	3	5	206
APPROACH %'s :	0.87%	97.39%	1.74%	6.25%	81.25%	12.50%	82.09%	17.91%	0.00%	0.00%	37.50%	62.50%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	40	1	1	5	0	15	3	0	0	0	3	69
PEAK HR FACTOR :		0.808			0.375			0.750			0.750		0.821

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-020 **Day:** Wednesday

BIKES

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Westwood Plaza_Westwood Blvd			Westwood Plaza_Westwood Blvd			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	1	3	0	1	2	0	1	2	0	
3:00 PM	0	2	0	0	2	2	0	0	0	0	1	0	7
3:15 PM	0	0	0	0	6	1	1	0	0	0	2	0	10
3:30 PM	0	1	0	0	7	3	2	0	0	0	2	0	15
3:45 PM	0	1	0	1	7	3	1	0	0	0	1	0	14
4:00 PM	0	2	0	0	20	4	2	0	0	4	0	0	32
4:15 PM	0	2	0	3	5	3	0	0	0	0	0	0	13
4:30 PM	0	2	0	2	6	2	0	0	0	1	1	1	15
4:45 PM	0	4	0	2	7	1	3	1	0	0	2	0	20
5:00 PM	0	3	0	0	11	3	0	0	0	1	0	0	18
5:15 PM	0	1	0	0	20	0	1	0	0	0	1	0	23
5:30 PM	0	2	0	0	7	3	1	0	1	0	2	0	16
5:45 PM	0	1	0	0	11	1	0	1	0	0	2	1	17
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	21	0	8	109	26	11	2	1	6	14	2	200
APPROACH %'s :	0.00%	100.00%	0.00%	5.59%	76.22%	18.18%	78.57%	14.29%	7.14%	27.27%	63.64%	9.09%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	4	0	1	22	9	4	0	0	0	6	0	46
PEAK HR FACTOR :		0.500			0.727			0.500			0.750		0.767

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-020 **Day:** Wednesday

BUSES

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Westwood Plaza_Westwood Blvd			Westwood Plaza_Westwood Blvd			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	1	3	0	1	2	0	1	2	0	
7:00 AM	0	4	3	0	3	2	1	1	1	4	0	0	19
7:15 AM	1	7	4	0	4	2	0	2	1	6	1	0	28
7:30 AM	0	7	4	0	3	2	0	1	2	7	2	0	28
7:45 AM	0	6	6	0	6	2	0	2	1	7	3	0	33
8:00 AM	1	7	4	0	4	3	0	1	1	7	4	0	32
8:15 AM	0	7	4	0	6	2	0	1	2	6	3	0	31
8:30 AM	1	10	5	0	7	2	0	2	2	5	2	0	36
8:45 AM	0	7	6	0	7	3	0	0	1	6	2	0	32
9:00 AM	1	8	3	0	5	2	0	1	1	7	2	0	30
9:15 AM	0	6	4	0	7	2	0	2	0	5	4	0	30
9:30 AM	0	10	5	0	7	3	0	0	0	6	4	0	35
9:45 AM	0	6	5	0	6	1	0	2	1	5	2	0	28
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	85	53	0	65	26	1	15	13	71	29	0	362
APPROACH %'s :	2.82%	59.86%	37.32%	0.00%	71.43%	28.57%	3.45%	51.72%	44.83%	71.00%	29.00%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	2	30	19	0	23	9	0	6	6	25	12	0	132
PEAK HR FACTOR :		0.797			0.889			0.750			0.841		0.917

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-020 **Day:** Wednesday

BUSES

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Westwood Plaza_Westwood Blvd			Westwood Plaza_Westwood Blvd			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	1	3	0	1	2	0	1	2	0	
3:00 PM	0	5	4	0	6	3	0	2	0	6	0	0	26
3:15 PM	1	10	7	0	5	2	2	1	0	7	1	0	36
3:30 PM	0	4	4	0	4	1	0	2	1	6	1	0	23
3:45 PM	1	7	2	0	8	4	1	2	0	8	0	0	33
4:00 PM	1	8	6	0	6	0	0	4	0	6	1	0	32
4:15 PM	1	6	5	0	6	2	1	0	1	5	0	0	27
4:30 PM	3	6	5	0	5	2	0	5	0	6	1	0	33
4:45 PM	0	5	6	0	5	2	0	2	1	7	0	0	28
5:00 PM	3	7	6	0	6	3	0	1	0	5	1	0	32
5:15 PM	1	4	5	0	7	2	0	1	1	8	0	0	29
5:30 PM	2	7	4	0	5	2	0	4	0	6	1	0	31
5:45 PM	1	7	6	0	6	2	0	1	0	5	0	0	28
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	14	76	60	0	69	25	4	25	4	75	6	0	358
APPROACH %'s :	9.33%	50.67%	40.00%	0.00%	73.40%	26.60%	12.12%	75.76%	12.12%	92.59%	7.41%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	2	26	17	0	23	10	3	7	1	27	2	0	118
PEAK HR FACTOR :		0.625			0.688			0.917			0.906		0.819

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-020

Day: Wednesday

HEAVY TRUCKS

City: Los Angeles

Date: 4/26/2017

AM

NS/EW Streets:	Westwood Plaza_Westwood Blvd			Westwood Plaza_Westwood Blvd			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	1	3	0	1	2	0	1	2	0	
7:00 AM	0	1	0	2	4	0	0	0	1	0	0	1	9
7:15 AM	0	3	3	1	0	0	0	0	0	0	0	2	9
7:30 AM	0	4	0	1	1	0	0	0	0	0	0	1	7
7:45 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
8:00 AM	0	3	1	0	3	1	1	2	0	0	0	0	11
8:15 AM	1	5	0	0	2	0	0	1	0	0	0	2	11
8:30 AM	0	1	0	0	0	0	0	2	0	0	0	1	4
8:45 AM	0	4	0	1	3	1	0	0	1	0	1	0	11
9:00 AM	0	2	1	0	1	2	0	0	0	0	0	0	6
9:15 AM	2	3	1	1	1	0	1	1	1	0	1	3	15
9:30 AM	0	2	0	2	2	0	0	1	0	1	0	1	9
9:45 AM	0	4	0	0	2	0	0	1	0	0	0	1	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	34	6	8	20	4	2	8	3	1	2	12	103
APPROACH %'s :	6.98%	79.07%	13.95%	25.00%	62.50%	12.50%	15.38%	61.54%	23.08%	6.67%	13.33%	80.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	11	1	0	6	1	1	5	0	0	0	3	29
PEAK HR FACTOR :		0.542			0.438			0.500			0.375		0.659

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-020 **Day:** Wednesday

HEAVY TRUCKS

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Westwood Plaza_Westwood Blvd			Westwood Plaza_Westwood Blvd			Le Conte Ave			Le Conte Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	1	3	0	1	2	0	1	2	0	
3:00 PM	0	1	0	1	3	0	0	1	0	0	1	0	7
3:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
3:30 PM	0	1	0	0	0	1	0	0	0	0	0	1	3
3:45 PM	1	1	1	0	2	0	0	0	0	0	1	1	7
4:00 PM	0	2	0	0	1	1	0	0	0	0	0	0	4
4:15 PM	0	2	2	0	0	0	0	0	1	0	0	1	6
4:30 PM	0	0	1	1	1	0	1	1	0	0	1	0	6
4:45 PM	0	0	0	0	1	0	1	0	0	0	0	0	2
5:00 PM	0	3	0	1	3	0	0	0	0	1	0	0	8
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	2	0	0	0	0	0	0	1	0	0	3
5:45 PM	1	0	1	1	0	0	0	0	0	0	2	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	10	8	4	11	2	3	2	1	2	5	3	53
APPROACH %'s :	10.00%	50.00%	40.00%	23.53%	64.71%	11.76%	50.00%	33.33%	16.67%	20.00%	50.00%	30.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	1	3	1	1	5	1	1	1	0	0	2	2	18
PEAK HR FACTOR :		0.417			0.438			0.500			0.500		0.643

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Westwood Blvd and Weyburn Ave , Los Angeles

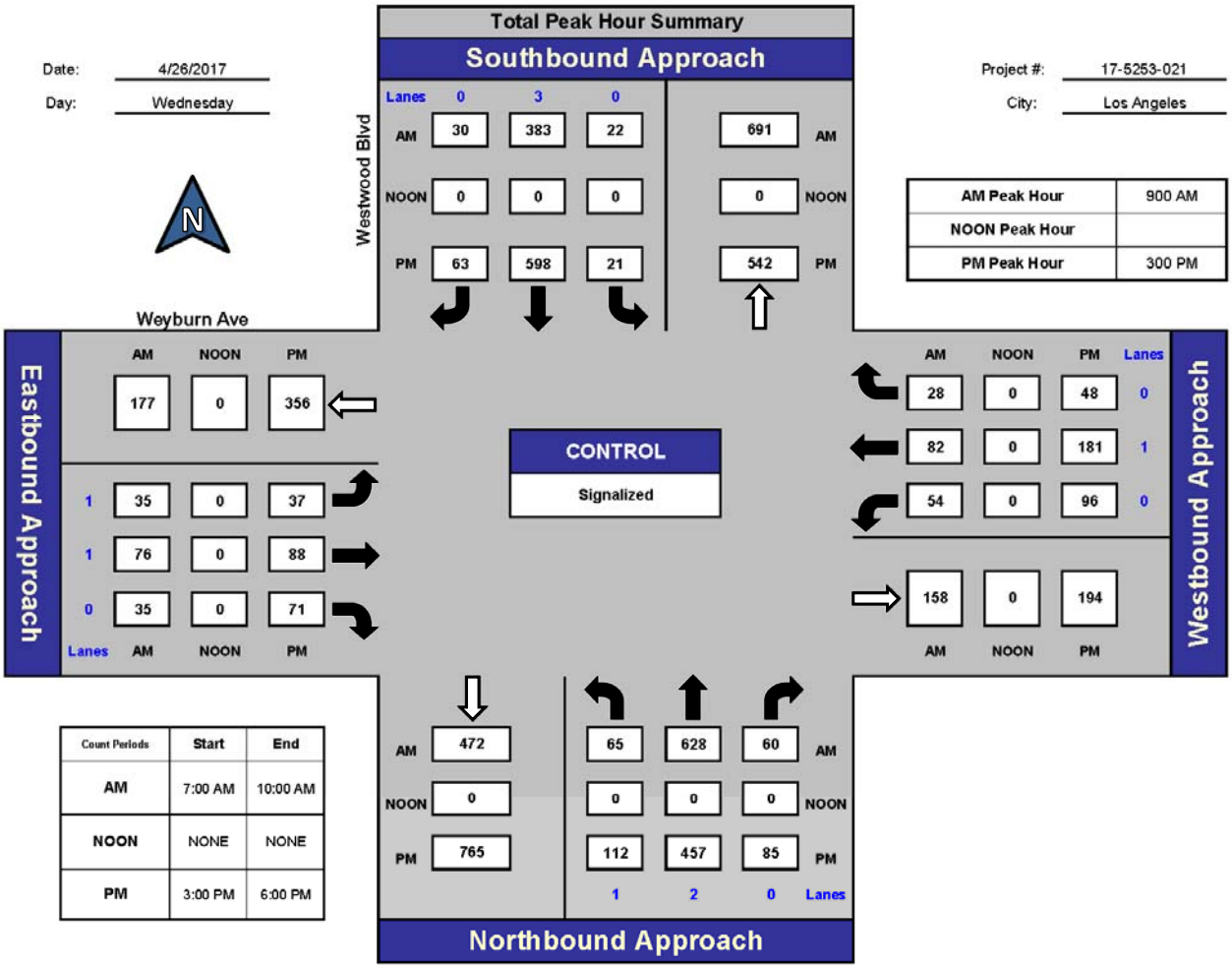
Date: 4/26/2017

Day: Wednesday

Project #: 17-5253-021

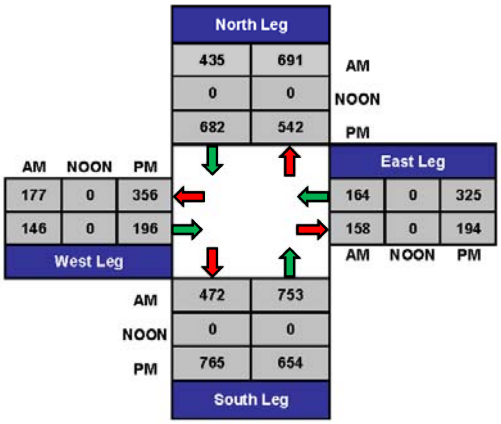
City: Los Angeles

AM Peak Hour	900 AM
NOON Peak Hour	
PM Peak Hour	300 PM

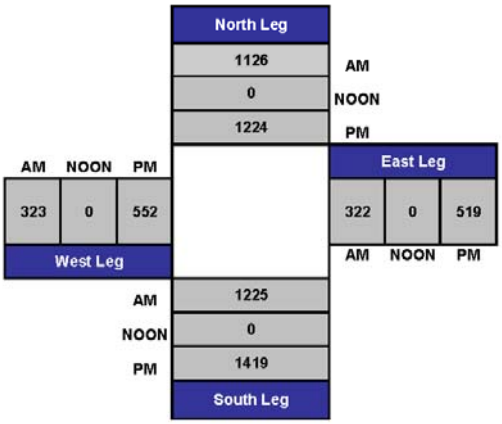


Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-021 **Day:** Wednesday

TOTALS

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	1	0	
7:00 AM	8	122	9	1	66	3	11	12	8	6	7	11	264
7:15 AM	9	148	15	2	50	3	9	12	4	9	12	13	286
7:30 AM	18	203	13	2	56	6	7	13	3	10	10	7	348
7:45 AM	19	175	17	0	59	3	6	25	5	11	18	5	343
8:00 AM	15	182	14	3	77	8	9	18	4	6	26	10	372
8:15 AM	11	165	20	3	64	2	6	20	8	12	15	3	329
8:30 AM	14	181	15	4	77	4	4	20	2	10	33	12	376
8:45 AM	13	143	13	5	90	5	5	22	6	5	20	7	334
9:00 AM	12	144	15	7	89	7	11	15	7	11	16	9	343
9:15 AM	19	162	12	5	93	9	8	21	10	17	18	6	380
9:30 AM	20	155	18	5	106	5	9	18	10	16	27	7	396
9:45 AM	14	167	15	5	95	9	7	22	8	10	21	6	379
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	172	1947	176	42	922	64	92	218	75	123	223	96	4150
APPROACH %'s :	7.49%	84.84%	7.67%	4.09%	89.69%	6.23%	23.90%	56.62%	19.48%	27.83%	50.45%	21.72%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	65	628	60	22	383	30	35	76	35	54	82	28	1498
PEAK HR FACTOR :		0.960			0.938			0.936			0.820		0.946

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-021 **Day:** Wednesday

City: Los Angeles **Date:** 4/26/2017

TOTALS

PM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	1	0	
3:00 PM	31	107	23	5	150	27	10	25	15	28	42	16	479
3:15 PM	25	123	28	6	144	11	11	27	20	23	46	17	481
3:30 PM	27	130	18	3	184	12	8	15	23	26	41	10	497
3:45 PM	29	97	16	7	120	13	8	21	13	19	52	5	400
4:00 PM	25	99	25	1	140	6	10	24	27	20	42	11	430
4:15 PM	16	112	7	1	119	17	7	28	12	31	40	9	399
4:30 PM	19	110	13	0	139	14	9	25	19	18	48	17	431
4:45 PM	23	90	24	1	136	18	12	30	26	22	47	9	438
5:00 PM	15	116	15	0	148	9	5	36	17	21	43	19	444
5:15 PM	31	112	18	2	139	13	11	40	27	27	57	13	490
5:30 PM	29	121	23	0	117	8	4	36	18	24	59	12	451
5:45 PM	28	100	24	2	110	21	14	33	18	20	50	16	436
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	298	1317	234	28	1646	169	109	340	235	279	567	154	5376
APPROACH %'s :	16.12%	71.23%	12.66%	1.52%	89.31%	9.17%	15.94%	49.71%	34.36%	27.90%	56.70%	15.40%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	112	457	85	21	598	63	37	88	71	96	181	48	1857
PEAK HR FACTOR :		0.929			0.857			0.845			0.945		0.934

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-021

Day: Wednesday

CARS

City: Los Angeles

Date: 4/26/2017

AM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	1	0	
7:00 AM	7	111	9	1	54	2	11	12	8	3	7	11	236
7:15 AM	9	132	15	2	39	3	9	12	4	6	11	12	254
7:30 AM	17	189	13	2	45	5	5	13	3	10	10	7	319
7:45 AM	19	163	17	0	45	2	6	24	5	11	18	5	315
8:00 AM	14	166	13	3	63	7	9	18	4	6	25	10	338
8:15 AM	11	148	20	3	50	1	6	20	8	12	14	3	296
8:30 AM	13	163	15	4	62	4	4	20	2	10	32	12	341
8:45 AM	13	130	13	4	72	5	5	20	5	5	20	6	298
9:00 AM	12	127	15	7	73	6	11	15	7	10	16	9	308
9:15 AM	19	149	12	5	80	8	8	21	10	15	18	6	351
9:30 AM	18	137	18	5	92	4	9	18	10	16	26	7	360
9:45 AM	14	148	15	5	82	9	7	22	8	10	21	5	346
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	166	1763	175	41	757	56	90	215	74	114	218	93	3762
APPROACH %'s :	7.89%	83.79%	8.32%	4.80%	88.64%	6.56%	23.75%	56.73%	19.53%	26.82%	51.29%	21.88%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	63	561	60	22	327	27	35	76	35	51	81	27	1365
PEAK HR FACTOR :		0.950			0.931			0.936			0.811		0.948

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-021 **Day:** Wednesday

CARS

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	1	0	
3:00 PM	31	98	23	5	136	26	10	25	15	28	42	15	454
3:15 PM	25	109	27	6	135	10	11	27	20	22	46	17	455
3:30 PM	26	120	18	3	171	12	7	13	23	26	41	10	470
3:45 PM	28	85	16	6	106	11	8	20	13	19	52	5	369
4:00 PM	25	85	25	1	128	6	10	24	27	19	42	11	403
4:15 PM	16	92	7	1	105	16	7	28	12	31	40	9	364
4:30 PM	19	97	13	0	128	13	9	24	18	18	48	17	404
4:45 PM	22	79	24	1	125	16	12	30	26	22	47	9	413
5:00 PM	15	98	15	0	133	9	5	36	17	21	42	17	408
5:15 PM	31	103	18	2	125	11	11	39	27	27	56	13	463
5:30 PM	29	104	23	0	105	7	4	36	17	23	59	10	417
5:45 PM	28	89	24	2	101	20	14	33	18	20	50	15	414
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	295	1159	233	27	1498	157	108	335	233	276	565	148	5034
APPROACH %'s :	17.49%	68.70%	13.81%	1.61%	89.06%	9.33%	15.98%	49.56%	34.47%	27.91%	57.13%	14.96%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	110	412	84	20	548	59	36	85	71	95	181	47	1748
PEAK HR FACTOR :		0.924			0.843			0.828			0.950		0.930

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-5253-021
N/S Street: Westwood Blvd
E/W Street: Weyburn Ave
DATE: 4/26/2017 DAY: Wednesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	12	11	13	5	34	5	24	8
7:15 AM	13	5	4	4	55	13	26	8
7:30 AM	14	15	10	7	66	13	27	18
7:45 AM	20	12	12	13	41	18	40	17
8:00 AM	20	15	7	12	32	15	26	11
8:15 AM	21	16	11	19	51	8	30	20
8:30 AM	15	16	15	18	65	12	33	19
8:45 AM	16	12	17	23	46	15	20	18
9:00 AM	14	16	12	13	41	18	17	21
9:15 AM	15	27	9	19	52	19	33	18
9:30 AM	22	17	13	28	55	22	29	22
9:45 AM	19	13	22	21	59	21	46	25
TOTALS	**201**	**175**	**145**	**182**	**597**	**179**	**351**	**205**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	1	0	0	0	0	0	3	0
7:15 AM	2	1	0	0	1	1	3	2
7:30 AM	1	0	0	0	0	0	2	4
7:45 AM	1	2	0	0	0	0	3	1
8:00 AM	2	0	0	0	2	0	0	3
8:15 AM	2	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	5
8:45 AM	3	0	0	0	0	0	1	2
9:00 AM	1	0	0	0	0	0	2	3
9:15 AM	3	1	0	1	0	0	2	1
9:30 AM	0	0	0	0	0	0	1	5
9:45 AM	1	3	0	0	1	0	1	5
TOTALS	**17**	**7**	**0**	**1**	**4**	**1**	**18**	**33**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	20	41	35	42	56	43	30	66
3:15 PM	24	36	49	39	34	47	38	74
3:30 PM	23	39	41	45	44	56	51	61
3:45 PM	16	40	29	32	41	52	39	51
4:00 PM	21	38	26	38	46	58	43	61
4:15 PM	31	46	22	39	43	53	52	51
4:30 PM	17	30	27	47	35	55	37	66
4:45 PM	36	58	37	40	37	70	46	57
5:00 PM	26	57	40	39	38	70	42	77
5:15 PM	29	61	35	44	38	55	35	65
5:30 PM	27	43	45	31	45	65	34	63
5:45 PM	34	44	25	27	43	51	38	64
TOTALS	**304**	**533**	**411**	**463**	**500**	**675**	**485**	**756**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	2	2	0	0	0	0	0	4
3:15 PM	4	0	0	0	0	0	1	4
3:30 PM	6	0	0	0	0	0	0	6
3:45 PM	1	0	0	0	0	0	0	3
4:00 PM	5	1	0	0	0	0	1	1
4:15 PM	1	1	0	0	0	0	0	3
4:30 PM	3	1	0	0	0	0	1	3
4:45 PM	1	1	0	0	0	1	0	6
5:00 PM	0	0	1	0	0	0	1	3
5:15 PM	0	0	0	0	0	0	0	5
5:30 PM	2	3	0	0	0	0	0	2
5:45 PM	1	0	0	0	0	0	0	5
TOTALS	**26**	**9**	**1**	**0**	**0**	**1**	**4**	**45**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-021

Day: Wednesday

BIKES

City: Los Angeles

Date: 4/26/2017

AM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	1	0	
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	3	0	0	0	0	0	1	0	0	1	0	5
7:45 AM	0	7	0	0	2	1	1	0	0	0	0	0	11
8:00 AM	2	10	1	0	0	0	1	0	0	0	0	0	14
8:15 AM	1	9	0	0	0	0	1	1	0	0	0	1	13
8:30 AM	0	11	1	0	0	0	0	0	0	0	0	0	12
8:45 AM	0	10	0	0	1	1	3	2	0	0	0	0	17
9:00 AM	0	12	0	0	1	0	2	1	0	0	0	0	16
9:15 AM	0	12	0	0	2	0	1	2	0	0	0	0	17
9:30 AM	0	11	0	0	0	0	0	1	0	0	0	0	12
9:45 AM	0	14	0	0	2	0	0	0	0	0	1	0	17
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	100	2	0	9	2	9	8	0	0	2	1	136
APPROACH %'s :	2.86%	95.24%	1.90%	0.00%	81.82%	18.18%	52.94%	47.06%	0.00%	0.00%	66.67%	33.33%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	0	49	0	0	5	0	3	4	0	0	1	0	62
PEAK HR FACTOR :		0.875			0.625			0.583			0.250		0.912

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-021 **Day:** Wednesday

BIKES

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	1	0	
3:00 PM	0	1	0	0	0	1	0	0	1	0	2	0	5
3:15 PM	0	1	1	0	5	0	0	0	1	0	0	0	8
3:30 PM	0	0	0	1	4	1	0	1	0	0	0	0	7
3:45 PM	0	0	0	1	2	1	0	0	0	0	0	0	4
4:00 PM	0	1	0	0	22	3	1	1	0	0	0	0	28
4:15 PM	0	1	0	0	5	0	0	0	0	1	0	0	7
4:30 PM	0	0	0	0	4	2	0	0	0	0	0	0	6
4:45 PM	1	1	2	0	6	3	2	1	0	0	0	1	17
5:00 PM	0	11	0	3	14	1	0	1	2	0	0	1	33
5:15 PM	0	3	0	1	14	5	0	0	0	0	2	0	25
5:30 PM	0	2	0	0	6	2	1	0	0	0	0	0	11
5:45 PM	0	0	0	3	9	2	0	1	0	2	1	0	18
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	21	3	9	91	21	4	5	4	3	5	2	169
APPROACH %'s :	4.00%	84.00%	12.00%	7.44%	75.21%	17.36%	30.77%	38.46%	30.77%	30.00%	50.00%	20.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	2	1	2	11	3	0	1	2	0	2	0	24
PEAK HR FACTOR :		0.375			0.667			0.750			0.250		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-021 **Day:** Wednesday

BUSES

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	1	0	
7:00 AM	0	9	0	0	8	0	0	0	0	0	0	0	17
7:15 AM	0	12	0	0	11	0	0	0	0	0	0	0	23
7:30 AM	0	13	0	0	10	1	0	0	0	0	0	0	24
7:45 AM	0	10	0	0	13	1	0	0	0	0	0	0	24
8:00 AM	0	11	0	0	11	1	0	0	0	0	0	0	23
8:15 AM	0	13	0	0	12	1	0	0	0	0	0	0	26
8:30 AM	0	17	0	0	15	0	0	0	0	0	0	0	32
8:45 AM	0	10	0	0	15	0	0	0	0	0	0	0	25
9:00 AM	0	13	0	0	14	1	0	0	0	0	0	0	28
9:15 AM	0	9	0	0	11	1	0	0	0	0	0	0	21
9:30 AM	0	16	0	0	12	1	0	0	0	0	0	0	29
9:45 AM	0	14	0	0	11	0	0	0	0	0	0	0	25
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	147	0	0	143	7	0	0	0	0	0	0	297
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	95.33%	4.67%							
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	0	52	0	0	48	3	0	0	0	0	0	0	103
PEAK HR FACTOR :		0.813			0.850			0.000			0.000		0.888

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-021 **Day:** Wednesday

BUSES

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	1	0	
3:00 PM	0	9	0	0	11	1	0	0	0	0	0	0	21
3:15 PM	0	14	0	0	9	1	0	0	0	0	0	0	24
3:30 PM	0	10	0	0	13	0	0	0	0	0	0	0	23
3:45 PM	0	9	0	0	13	2	0	0	0	0	0	0	24
4:00 PM	0	14	0	0	11	0	0	0	0	0	0	0	25
4:15 PM	0	14	0	0	13	1	0	0	0	0	0	0	28
4:30 PM	0	12	0	0	10	1	0	0	0	0	0	0	23
4:45 PM	0	11	0	0	11	1	0	0	0	0	0	0	23
5:00 PM	0	16	0	0	12	0	0	0	0	0	0	0	28
5:15 PM	0	9	0	0	14	2	0	0	0	0	0	0	25
5:30 PM	0	16	0	0	11	1	0	0	0	0	0	0	28
5:45 PM	0	11	0	0	8	1	0	0	0	0	0	0	20
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	145	0	0	136	11	0	0	0	0	0	0	292
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	92.52%	7.48%							
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	42	0	0	46	4	0	0	0	0	0	0	92
PEAK HR FACTOR :		0.750			0.833			0.000			0.000		0.958

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-021 **Day:** Wednesday

HEAVY TRUCKS

City: Los Angeles **Date:** 4/26/2017

AM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	1	0	
7:00 AM	1	2	0	0	4	1	0	0	0	3	0	0	11
7:15 AM	0	4	0	0	0	0	0	0	0	3	1	1	9
7:30 AM	1	1	0	0	1	0	2	0	0	0	0	0	5
7:45 AM	0	2	0	0	1	0	0	1	0	0	0	0	4
8:00 AM	1	5	1	0	3	0	0	0	0	0	1	0	11
8:15 AM	0	4	0	0	2	0	0	0	0	0	1	0	7
8:30 AM	1	1	0	0	0	0	0	0	0	0	1	0	3
8:45 AM	0	3	0	1	3	0	0	2	1	0	0	1	11
9:00 AM	0	4	0	0	2	0	0	0	0	1	0	0	7
9:15 AM	0	4	0	0	2	0	0	0	0	2	0	0	8
9:30 AM	2	2	0	0	2	0	0	0	0	0	1	0	7
9:45 AM	0	5	0	0	2	0	0	0	0	0	0	1	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	6	37	1	1	22	1	2	3	1	9	5	3	91
APPROACH %'s :	13.64%	84.09%	2.27%	4.17%	91.67%	4.17%	33.33%	50.00%	16.67%	52.94%	29.41%	17.65%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	2	15	0	0	8	0	0	0	0	3	1	1	30
PEAK HR FACTOR :		0.850			1.000			0.000			0.625		0.938

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5253-021 **Day:** Wednesday

HEAVY TRUCKS

City: Los Angeles **Date:** 4/26/2017

PM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Weyburn Ave			Weyburn Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	1	0	
3:00 PM	0	0	0	0	3	0	0	0	0	0	0	1	4
3:15 PM	0	0	1	0	0	0	0	0	0	1	0	0	2
3:30 PM	1	0	0	0	0	0	1	2	0	0	0	0	4
3:45 PM	1	3	0	1	1	0	0	1	0	0	0	0	7
4:00 PM	0	0	0	0	1	0	0	0	0	1	0	0	2
4:15 PM	0	6	0	0	1	0	0	0	0	0	0	0	7
4:30 PM	0	1	0	0	1	0	0	1	1	0	0	0	4
4:45 PM	1	0	0	0	0	1	0	0	0	0	0	0	2
5:00 PM	0	2	0	0	3	0	0	0	0	0	1	2	8
5:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
5:30 PM	0	1	0	0	1	0	0	0	1	1	0	2	6
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	1	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	13	1	1	12	1	1	5	2	3	2	6	50
APPROACH %'s :	17.65%	76.47%	5.88%	7.14%	85.71%	7.14%	12.50%	62.50%	25.00%	27.27%	18.18%	54.55%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	2	3	1	1	4	0	1	3	0	1	0	1	17
PEAK HR FACTOR :		0.375			0.417			0.333			0.500		0.607

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

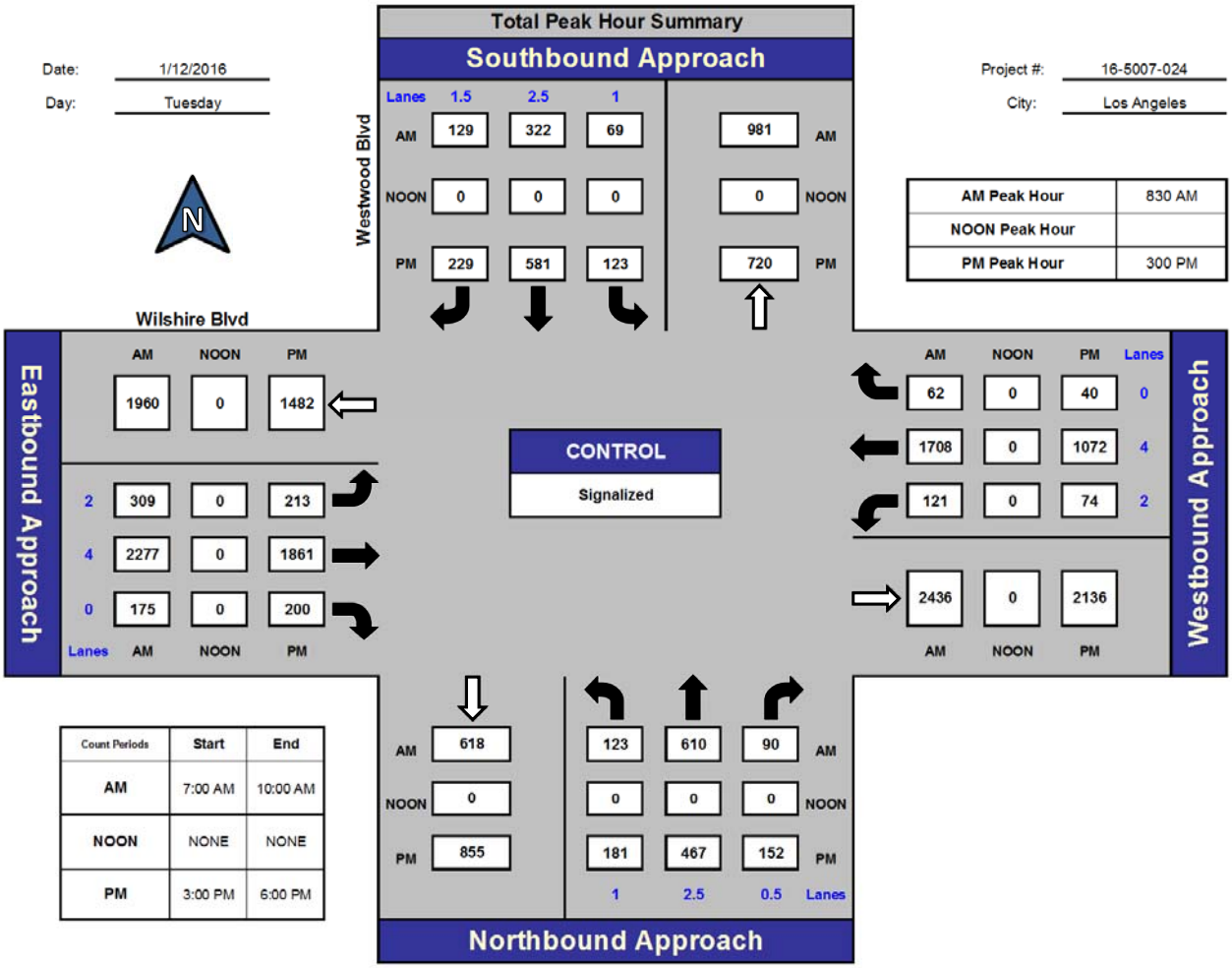
National Data & Surveying Services

Westwood Blvd and Wilshire Blvd , Los Angeles

Date: 1/12/2016
Day: Tuesday

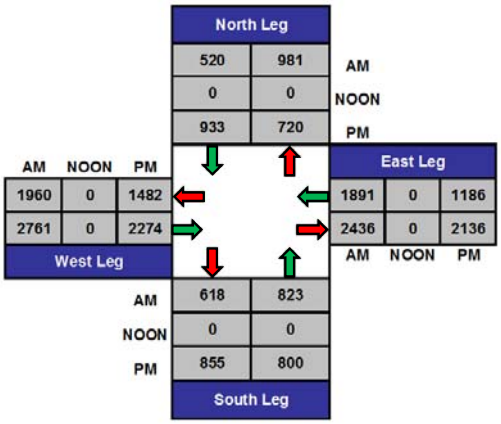
Project #: 16-5007-024
City: Los Angeles

AM Peak Hour	830 AM
NOON Peak Hour	
PM Peak Hour	300 PM

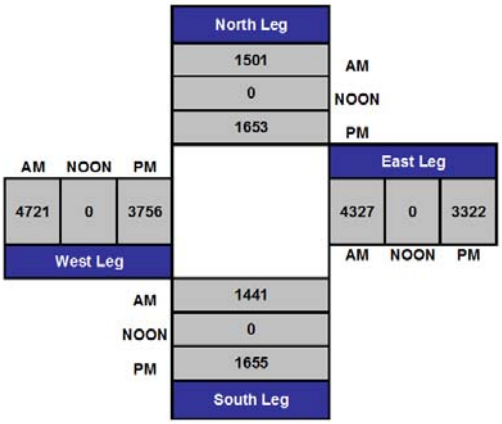


Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-024

Day: Tuesday

City: Los Angeles

TOTALS

Date: 1/12/2016

AM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2.5	0.5	1	2.5	1.5	2	4	0	2	4	0	
7:00 AM	36	93	15	8	42	29	88	381	31	10	333	24	1090
7:15 AM	23	125	19	11	31	29	78	429	27	26	555	16	1369
7:30 AM	28	148	23	19	50	42	104	522	28	26	415	14	1419
7:45 AM	46	165	22	18	55	35	99	533	30	26	473	18	1520
8:00 AM	41	151	33	16	49	14	100	519	26	24	416	12	1401
8:15 AM	33	139	27	19	56	27	86	532	35	28	469	20	1471
8:30 AM	25	158	17	11	85	30	51	612	32	34	446	15	1516
8:45 AM	28	153	27	23	78	36	60	585	57	26	389	16	1478
9:00 AM	31	143	20	18	75	43	95	525	54	28	418	15	1465
9:15 AM	39	156	26	17	84	20	103	555	32	33	455	16	1536
9:30 AM	18	114	30	26	73	29	95	499	50	28	406	20	1388
9:45 AM	37	130	37	22	59	31	85	526	53	23	484	21	1508
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	385	1675	296	208	737	365	1044	6218	455	312	5259	207	17161
APPROACH %'s :	16.34%	71.10%	12.56%	15.88%	56.26%	27.86%	13.53%	80.58%	5.90%	5.40%	91.02%	3.58%	
PEAK HR START TIME :	830 AM												TOTAL
PEAK HR VOL :	123	610	90	69	322	129	309	2277	175	121	1708	62	5995
PEAK HR FACTOR :		0.931			0.949			0.983			0.938		0.976

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-024 **Day:** Tuesday

City: Los Angeles **Date:** 1/12/2016

TOTALS

PM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2.5	0.5	1	2.5	1.5	2	4	0	2	4	0	
3:00 PM	45	107	39	38	137	58	53	485	62	21	302	13	1360
3:15 PM	50	123	38	28	147	57	57	476	46	22	293	10	1347
3:30 PM	46	127	39	26	153	60	56	466	42	19	250	11	1295
3:45 PM	40	110	36	31	144	54	47	434	50	12	227	6	1191
4:00 PM	35	119	32	35	155	46	35	430	46	21	188	8	1150
4:15 PM	39	108	29	36	140	38	47	452	52	13	220	14	1188
4:30 PM	38	135	32	42	149	56	53	421	42	22	210	8	1208
4:45 PM	46	116	36	41	185	51	47	473	40	21	238	5	1299
5:00 PM	48	125	32	31	169	45	36	366	41	23	225	11	1152
5:15 PM	44	107	43	41	121	37	45	466	45	5	169	7	1130
5:30 PM	39	132	34	24	111	49	47	331	53	19	353	20	1212
5:45 PM	51	121	27	18	107	47	49	306	48	23	356	22	1175
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	521	1430	417	391	1718	598	572	5106	567	221	3031	135	14707
APPROACH %'s :	22.00%	60.39%	17.61%	14.44%	63.47%	22.09%	9.16%	81.76%	9.08%	6.52%	89.49%	3.99%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	181	467	152	123	581	229	213	1861	200	74	1072	40	5193
PEAK HR FACTOR :		0.943			0.976			0.948			0.882		0.955

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-024

Day: Tuesday

CARS

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2.5	0.5	1	2.5	1.5	2	4	0	2	4	0	
7:00 AM	36	85	15	6	32	27	83	369	30	10	323	23	1039
7:15 AM	21	119	16	10	24	25	70	420	26	24	546	16	1317
7:30 AM	28	139	23	15	42	38	99	512	27	25	399	14	1361
7:45 AM	46	159	21	16	46	30	92	525	30	25	461	18	1469
8:00 AM	38	143	31	13	40	12	93	511	26	22	404	12	1345
8:15 AM	31	127	27	13	48	25	81	525	35	28	457	20	1417
8:30 AM	24	156	17	10	75	25	45	599	31	33	434	14	1463
8:45 AM	28	145	25	19	70	35	51	577	55	26	382	16	1429
9:00 AM	30	137	20	16	64	38	89	516	54	28	401	14	1407
9:15 AM	38	150	25	17	69	16	95	548	30	33	449	15	1485
9:30 AM	18	103	29	23	63	24	91	487	49	28	391	18	1324
9:45 AM	37	120	35	21	49	27	78	515	52	21	465	21	1441
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	375	1583	284	179	622	322	967	6104	445	303	5112	201	16497
APPROACH %'s :	16.73%	70.61%	12.67%	15.94%	55.39%	28.67%	12.87%	81.21%	5.92%	5.40%	91.03%	3.58%	
PEAK HR START TIME :	830 AM												TOTAL
PEAK HR VOL :	120	588	87	62	278	114	280	2240	170	120	1666	59	5784
PEAK HR FACTOR :		0.933			0.915			0.985			0.928		0.974

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-024 **Day:** Tuesday

CARS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2.5	0.5	1	2.5	1.5	2	4	0	2	4	0	
3:00 PM	45	99	39	37	129	55	50	474	60	21	295	13	1317
3:15 PM	50	118	37	26	136	52	53	465	45	22	285	9	1298
3:30 PM	46	120	38	26	146	56	51	456	42	19	245	10	1255
3:45 PM	40	105	36	30	138	49	42	421	46	12	218	5	1142
4:00 PM	35	113	30	35	148	42	30	420	45	21	180	8	1107
4:15 PM	39	101	29	35	133	36	41	442	52	13	215	13	1149
4:30 PM	38	133	32	41	142	53	46	408	42	22	200	8	1165
4:45 PM	44	112	36	40	177	48	39	468	38	21	232	5	1260
5:00 PM	47	116	32	30	159	43	32	358	41	23	219	9	1109
5:15 PM	44	103	42	41	114	35	40	457	45	5	165	6	1097
5:30 PM	37	127	34	24	103	46	40	325	53	19	347	19	1174
5:45 PM	51	115	26	17	102	45	45	294	48	23	351	20	1137
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	516	1362	411	382	1627	560	509	4988	557	221	2952	125	14210
APPROACH %'s :	22.54%	59.50%	17.96%	14.87%	63.33%	21.80%	8.41%	82.39%	9.20%	6.70%	89.51%	3.79%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	181	442	150	119	549	212	196	1816	193	74	1043	37	5012
PEAK HR FACTOR :		0.943			0.965			0.944			0.877		0.951

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-5007-024
N/S Street: Westwood Blvd
E/W Street: Wilshire Blvd
DATE: 1/12/2016 DAY: Tuesday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	5	3	28	24	10	19	18	35
7:15 AM	25	2	27	15	16	29	11	34
7:30 AM	23	4	31	33	15	33	39	46
7:45 AM	12	5	28	26	15	28	37	39
8:00 AM	11	11	30	15	9	34	18	34
8:15 AM	41	5	32	18	30	51	42	67
8:30 AM	6	3	55	19	32	56	44	98
8:45 AM	0	2	43	29	21	40	33	46
9:00 AM	18	7	35	35	26	44	37	47
9:15 AM	17	14	14	7	8	21	22	27
9:30 AM	15	11	32	20	34	45	13	26
9:45 AM	8	8	26	12	20	19	17	26
TOTALS	**181**	**75**	**381**	**253**	**236**	**419**	**331**	**525**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	6	5	0	1	0	0
7:45 AM	0	0	6	6	0	3	0	0
8:00 AM	0	0	3	2	1	2	0	0
8:15 AM	0	0	5	3	1	1	0	0
8:30 AM	0	0	10	4	0	0	0	0
8:45 AM	0	0	8	4	0	1	0	0
9:00 AM	0	0	8	4	1	0	0	0
9:15 AM	0	0	11	4	1	0	0	0
9:30 AM	0	0	7	5	0	1	0	0
9:45 AM	0	0	3	1	1	1	0	0
TOTALS	**0**	**0**	**67**	**38**	**5**	**10**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	12	6	48	28	25	56	27	49
3:15 PM	12	11	40	28	48	53	68	92
3:30 PM	22	10	65	34	56	45	59	62
3:45 PM	21	19	37	45	40	82	58	70
4:00 PM	25	15	52	32	43	69	73	51
4:15 PM	15	15	38	29	40	50	33	42
4:30 PM	17	6	48	35	31	45	30	66
4:45 PM	12	6	46	47	50	63	42	69
5:00 PM	23	12	55	47	54	80	49	62
5:15 PM	4	1	44	25	35	68	21	44
5:30 PM	0	0	6	4	7	22	9	4
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**163**	**101**	**479**	**354**	**429**	**633**	**469**	**611**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	7	2	0	1	0	0
3:15 PM	0	0	9	5	0	3	0	0
3:30 PM	0	0	9	4	0	0	0	0
3:45 PM	0	0	8	6	0	3	0	0
4:00 PM	0	0	7	2	0	0	0	0
4:15 PM	0	0	7	2	0	0	0	0
4:30 PM	0	0	4	3	0	0	0	0
4:45 PM	0	0	6	5	0	0	0	0
5:00 PM	0	0	5	3	0	0	0	0
5:15 PM	0	0	2	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**64**	**32**	**0**	**7**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-024

Day: Tuesday

BIKES

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2.5	0.5	1	2.5	1.5	2	4	0	2	4	0	
7:00 AM	0	5	0	0	0	0	0	0	0	0	1	0	6
7:15 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
7:30 AM	0	4	0	0	1	0	0	0	0	0	0	0	5
7:45 AM	0	5	0	0	1	0	0	1	0	0	0	0	7
8:00 AM	0	8	0	0	0	0	0	0	0	0	1	0	9
8:15 AM	1	6	0	0	0	0	0	0	0	0	0	0	7
8:30 AM	0	9	0	0	0	0	0	1	0	0	0	0	10
8:45 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
9:00 AM	0	21	0	0	1	0	0	0	0	0	1	0	23
9:15 AM	0	2	0	0	0	0	0	1	0	0	0	0	3
9:30 AM	0	6	0	0	4	0	0	1	0	0	0	0	11
9:45 AM	0	8	0	0	1	0	0	1	0	0	1	0	11
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	78	0	0	11	0	0	5	0	0	4	0	99
APPROACH %'s :	1.27%	98.73%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	830 AM												TOTAL
PEAK HR VOL :	0	35	0	0	2	0	0	2	0	0	1	0	40
PEAK HR FACTOR :		0.417			0.500			0.500			0.250		0.435

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-024 **Day:** Tuesday

BIKES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2.5	0.5	1	2.5	1.5	2	4	0	2	4	0	
3:00 PM	0	0	0	0	4	0	0	1	0	0	0	0	5
3:15 PM	0	1	0	0	3	0	0	0	0	0	0	0	4
3:30 PM	0	1	0	0	0	0	0	2	0	0	0	0	3
3:45 PM	0	1	0	1	4	0	0	0	0	0	1	0	7
4:00 PM	0	2	0	0	6	0	0	0	0	0	0	0	8
4:15 PM	0	0	0	0	3	0	0	1	0	0	0	0	4
4:30 PM	0	2	0	0	2	0	0	1	0	0	0	0	5
4:45 PM	0	0	0	0	5	0	0	0	0	0	0	0	5
5:00 PM	0	1	0	0	16	0	0	1	0	0	0	0	18
5:15 PM	0	4	0	1	9	0	0	0	0	0	0	0	14
5:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
5:45 PM													
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	12	0	2	54	0	0	6	0	0	1	0	75
APPROACH %'s :	0.00%	100.00%	0.00%	3.57%	96.43%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	3	0	1	11	0	0	3	0	0	1	0	19
PEAK HR FACTOR :		0.750			0.600			0.375			0.250		0.679

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-024

Day: Tuesday

BUSES

City: Los Angeles

Date: 1/12/2016

AM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2.5	0.5	1	2.5	1.5	2	4	0	2	4	0	
7:00 AM	0	3	0	1	6	2	3	5	1	0	5	1	27
7:15 AM	0	4	1	1	4	3	6	4	1	0	5	0	29
7:30 AM	0	6	0	3	5	2	3	1	0	0	9	0	29
7:45 AM	0	4	0	1	7	2	5	4	0	0	9	0	32
8:00 AM	0	5	0	2	7	1	5	4	0	0	7	0	31
8:15 AM	0	7	0	5	8	1	4	1	0	0	8	0	34
8:30 AM	0	2	0	0	6	4	3	3	0	0	7	0	25
8:45 AM	0	4	0	4	6	0	7	3	0	0	5	0	29
9:00 AM	0	5	0	2	6	0	4	3	0	0	12	0	32
9:15 AM	0	4	0	0	11	3	6	2	2	0	2	0	30
9:30 AM	0	7	0	2	5	3	4	3	1	0	7	1	33
9:45 AM	0	6	0	1	8	2	5	1	0	0	8	0	31
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	57	1	22	79	23	55	34	5	0	84	2	362
APPROACH %'s :	0.00%	98.28%	1.72%	17.74%	63.71%	18.55%	58.51%	36.17%	5.32%	0.00%	97.67%	2.33%	
PEAK HR START TIME :	830 AM												TOTAL
PEAK HR VOL :	0	15	0	6	29	7	20	11	2	0	26	0	116
PEAK HR FACTOR :		0.750			0.750			0.825			0.542		0.906

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-024 **Day:** Tuesday

BUSES

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2.5	0.5	1	2.5	1.5	2	4	0	2	4	0	
3:00 PM	0	5	0	1	6	2	3	4	0	0	2	0	23
3:15 PM	0	4	0	2	9	4	4	6	0	0	5	1	35
3:30 PM	0	7	0	0	4	2	4	5	0	0	3	0	25
3:45 PM	0	5	0	1	6	2	5	5	1	0	4	1	30
4:00 PM	0	5	1	0	4	3	5	6	0	0	6	0	30
4:15 PM	0	6	0	1	6	2	6	5	0	0	2	1	29
4:30 PM	0	2	0	1	6	2	7	9	0	0	6	0	33
4:45 PM	1	4	0	0	6	3	7	4	0	0	5	0	30
5:00 PM	0	8	0	1	4	2	4	6	0	0	4	1	30
5:15 PM	0	4	0	0	6	2	5	5	0	0	3	0	25
5:30 PM	1	4	0	0	6	3	7	4	0	0	5	0	30
5:45 PM	0	6	0	1	4	2	4	6	0	0	4	1	28
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	60	1	8	67	29	61	65	1	0	49	5	348
APPROACH %'s :	3.17%	95.24%	1.59%	7.69%	64.42%	27.88%	48.03%	51.18%	0.79%	0.00%	90.74%	9.26%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	21	0	4	25	10	16	20	1	0	14	2	113
PEAK HR FACTOR :		0.750			0.650			0.841			0.667		0.807

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-024 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

AM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2.5	0.5	1	2.5	1.5	2	4	0	2	4	0	
7:00 AM	0	5	0	1	4	0	2	7	0	0	5	0	24
7:15 AM	2	2	2	0	3	1	2	5	0	2	4	0	23
7:30 AM	0	3	0	1	3	2	2	9	1	1	7	0	29
7:45 AM	0	2	1	1	2	3	2	4	0	1	3	0	19
8:00 AM	3	3	2	1	2	1	2	4	0	2	5	0	25
8:15 AM	2	5	0	1	0	1	1	6	0	0	4	0	20
8:30 AM	1	0	0	1	4	1	3	10	1	1	5	1	28
8:45 AM	0	4	2	0	2	1	2	5	2	0	2	0	20
9:00 AM	1	1	0	0	5	5	2	6	0	0	5	1	26
9:15 AM	1	2	1	0	4	1	2	5	0	0	4	1	21
9:30 AM	0	4	1	1	5	2	0	9	0	0	8	1	31
9:45 AM	0	4	2	0	2	2	2	10	1	2	11	0	36
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	10	35	11	7	36	20	22	80	5	9	63	4	302
APPROACH %'s :	17.86%	62.50%	19.64%	11.11%	57.14%	31.75%	20.56%	74.77%	4.67%	11.84%	82.89%	5.26%	
PEAK HR START TIME :	830 AM												TOTAL
PEAK HR VOL :	3	7	3	1	15	8	9	26	3	1	16	3	95
PEAK HR FACTOR :		0.542			0.600			0.679			0.714		0.848

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-5007-024 **Day:** Tuesday

HEAVY TRUCKS

City: Los Angeles **Date:** 1/12/2016

PM

NS/EW Streets:	Westwood Blvd			Westwood Blvd			Wilshire Blvd			Wilshire Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2.5	0.5	1	2.5	1.5	2	4	0	2	4	0	
3:00 PM	0	3	0	0	2	1	0	7	2	0	5	0	20
3:15 PM	0	1	1	0	2	1	0	5	1	0	3	0	14
3:30 PM	0	0	1	0	3	2	1	5	0	0	2	1	15
3:45 PM	0	0	0	0	0	3	0	8	3	0	5	0	19
4:00 PM	0	1	1	0	3	1	0	4	1	0	2	0	13
4:15 PM	0	1	0	0	1	0	0	5	0	0	3	0	10
4:30 PM	0	0	0	0	1	1	0	4	0	0	4	0	10
4:45 PM	1	0	0	1	2	0	1	1	2	0	1	0	9
5:00 PM	1	1	0	0	6	0	0	2	0	0	2	1	13
5:15 PM	0	0	1	0	1	0	0	4	0	0	1	1	8
5:30 PM	1	1	0	0	2	0	0	2	0	0	1	1	8
5:45 PM	0	0	1	0	1	0	0	6	0	0	1	1	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	8	5	1	24	9	2	53	9	0	30	5	149
APPROACH %'s :	18.75%	50.00%	31.25%	2.94%	70.59%	26.47%	3.13%	82.81%	14.06%	0.00%	85.71%	14.29%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	4	2	0	7	7	1	25	6	0	15	1	68
PEAK HR FACTOR :		0.500			0.700			0.727			0.800		0.850

CONTROL : Signalized

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Los Angeles
N/S: Beverly Glen Boulevard
E/W: Wilshire Boulevard
Weather: Clear

File Name : LACBEWIAM
Site Code : 16616232
Start Date : 4/27/2016
Page No : 1

Groups Printed- Passenger Vehicles - Dual Wheeled - Buses

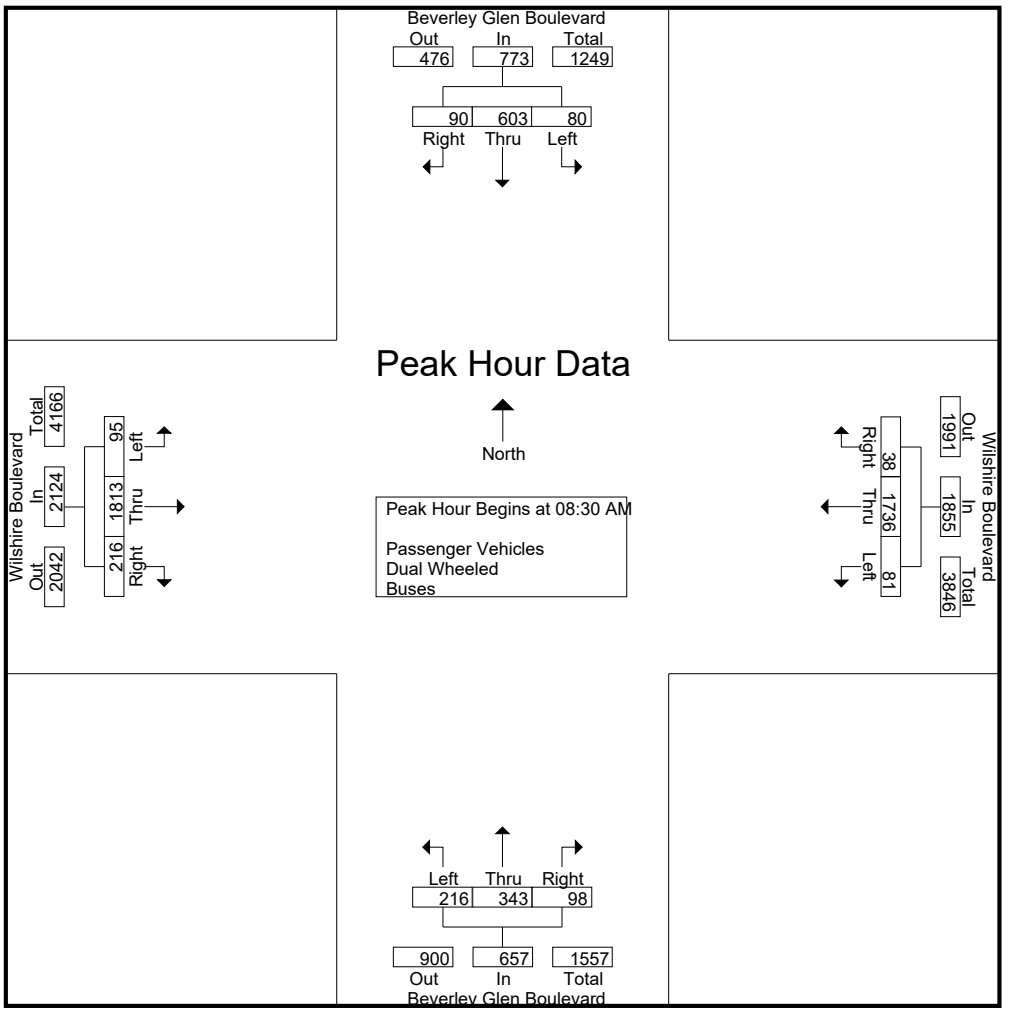
	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	104	33	145	11	492	9	512	22	57	12	91	10	228	25	263	1011
07:15 AM	25	91	28	144	14	477	6	497	47	80	11	138	19	304	30	353	1132
07:30 AM	21	114	16	151	10	551	7	568	41	93	14	148	21	347	35	403	1270
07:45 AM	23	132	24	179	15	292	16	323	62	134	21	217	16	348	42	406	1125
Total	77	441	101	619	50	1812	38	1900	172	364	58	594	66	1227	132	1425	4538
08:00 AM	21	124	25	170	21	440	6	467	60	126	15	201	32	385	36	453	1291
08:15 AM	31	157	21	209	21	300	3	324	72	120	22	214	23	376	61	460	1207
08:30 AM	19	148	23	190	17	379	6	402	51	98	28	177	28	513	60	601	1370
08:45 AM	19	166	20	205	16	411	6	433	66	98	37	201	18	448	49	515	1354
Total	90	595	89	774	75	1530	21	1626	249	442	102	793	101	1722	206	2029	5222
09:00 AM	14	121	25	160	27	504	14	545	45	80	22	147	24	464	62	550	1402
09:15 AM	28	168	22	218	21	442	12	475	54	67	11	132	25	388	45	458	1283
09:30 AM	22	127	16	165	25	501	11	537	50	72	17	139	33	418	60	511	1352
09:45 AM	23	148	28	199	34	449	15	498	44	96	26	166	20	358	49	427	1290
Total	87	564	91	742	107	1896	52	2055	193	315	76	584	102	1628	216	1946	5327
Grand Total	254	1600	281	2135	232	5238	111	5581	614	1121	236	1971	269	4577	554	5400	15087
Apprch %	11.9	74.9	13.2		4.2	93.9	2		31.2	56.9	12		5	84.8	10.3		
Total %	1.7	10.6	1.9	14.2	1.5	34.7	0.7	37	4.1	7.4	1.6	13.1	1.8	30.3	3.7	35.8	
Passenger Vehicles	245	1593	271	2109	230	5112	107	5449	599	1096	232	1927	260	4489	523	5272	14757
% Passenger Vehicles	96.5	99.6	96.4	98.8	99.1	97.6	96.4	97.6	97.6	97.8	98.3	97.8	96.7	98.1	94.4	97.6	97.8
Dual Wheeled	9	7	9	25	2	48	3	53	4	19	3	26	7	48	13	68	172
% Dual Wheeled	3.5	0.4	3.2	1.2	0.9	0.9	2.7	0.9	0.7	1.7	1.3	1.3	2.6	1	2.3	1.3	1.1
Buses	0	0	1	1	0	78	1	79	11	6	1	18	2	40	18	60	158
% Buses	0	0	0.4	0	0	1.5	0.9	1.4	1.8	0.5	0.4	0.9	0.7	0.9	3.2	1.1	1

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30 AM																	
08:30 AM	19	148	23	190	17	379	6	402	51	**98**	28	177	**28**	**513**	60	**601**	1370
08:45 AM	19	166	20	205	16	411	6	433	**66**	98	**37**	**201**	18	448	49	515	1354
09:00 AM	14	121	**25**	160	**27**	**504**	**14**	**545**	45	80	22	147	24	464	**62**	550	**1402**
09:15 AM	**28**	**168**	22	**218**	21	442	12	475	54	67	11	132	25	388	45	458	1283
Total Volume	80	603	90	773	81	1736	38	1855	216	343	98	657	95	1813	216	2124	5409
% App. Total	10.3	78	11.6		4.4	93.6	2		32.9	52.2	14.9		4.5	85.4	10.2		
PHF	.714	.897	.900	.886	.750	.861	.679	.851	.818	.875	.662	.817	.848	.884	.871	.884	.965

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Los Angeles
N/S: Beverly Glen Boulevard
E/W: Wilshire Boulevard
Weather: Clear

File Name : LACBEWIAM
Site Code : 16616232
Start Date : 4/27/2016
Page No : 2



Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				09:00 AM				07:45 AM				08:15 AM			
+0 mins.	21	124	**25**	170	27	**504**	14	**545**	62	**134**	21	**217**	23	376	61	460
+15 mins.	**31**	157	21	**209**	21	442	12	475	60	126	15	201	**28**	**513**	60	**601**
+30 mins.	19	148	23	190	25	501	11	537	**72**	120	22	214	18	448	49	515
+45 mins.	19	**166**	20	205	**34**	449	**15**	498	51	98	**28**	177	24	464	**62**	550
Total Volume	90	595	89	774	107	1896	52	2055	245	478	86	809	93	1801	232	2126
% App. Total	11.6	76.9	11.5		5.2	92.3	2.5		30.3	59.1	10.6		4.4	84.7	10.9	
PHF	.726	.896	.890	.926	.787	.940	.867	.943	.851	.892	.768	.932	.830	.878	.935	.884

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City of Los Angeles
N/S: Beverly Glen Boulevard
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File Name : LACBEWIAM
Site Code : 16616232
Start Date : 4/27/2016
Page No : 1

Groups Printed- Passenger Vehicles

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	104	32	144	11	481	8	500	20	55	11	86	8	222	24	254	984
07:15 AM	23	88	28	139	14	466	6	486	47	73	11	131	18	294	26	338	1094
07:30 AM	21	114	15	150	9	541	7	557	39	92	14	145	20	342	31	393	1245
07:45 AM	17	131	22	170	14	285	15	314	61	132	21	214	16	343	37	396	1094
Total	69	437	97	603	48	1773	36	1857	167	352	57	576	62	1201	118	1381	4417
08:00 AM	20	124	23	167	21	434	6	461	56	126	15	197	32	377	34	443	1268
08:15 AM	31	157	21	209	21	287	3	311	71	116	21	208	22	371	58	451	1179
08:30 AM	19	148	22	189	17	362	6	385	50	97	26	173	26	506	57	589	1336
08:45 AM	19	166	19	204	16	403	6	425	65	98	37	200	18	442	47	507	1336
Total	89	595	85	769	75	1486	21	1582	242	437	99	778	98	1696	196	1990	5119
09:00 AM	14	119	25	158	27	491	13	531	43	79	22	144	24	455	62	541	1374
09:15 AM	28	168	22	218	21	431	12	464	54	64	11	129	25	380	43	448	1259
09:30 AM	22	127	16	165	25	490	11	526	49	72	17	138	31	411	59	501	1330
09:45 AM	23	147	26	196	34	441	14	489	44	92	26	162	20	346	45	411	1258
Total	87	561	89	737	107	1853	50	2010	190	307	76	573	100	1592	209	1901	5221
Grand Total	245	1593	271	2109	230	5112	107	5449	599	1096	232	1927	260	4489	523	5272	14757
Apprch %	11.6	75.5	12.8		4.2	93.8	2		31.1	56.9	12		4.9	85.1	9.9		
Total %	1.7	10.8	1.8	14.3	1.6	34.6	0.7	36.9	4.1	7.4	1.6	13.1	1.8	30.4	3.5	35.7	

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:30 AM to 09:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30 AM																	
08:30 AM	19	148	22	189	17	362	6	385	50	97	26	173	**26**	**506**	57	**589**	1336
08:45 AM	19	166	19	204	16	403	6	425	**65**	**98**	**37**	**200**	18	442	47	507	1336
09:00 AM	14	119	**25**	158	**27**	**491**	**13**	**531**	43	79	22	144	24	455	**62**	541	**1374**
09:15 AM	**28**	**168**	22	**218**	21	431	12	464	54	64	11	129	25	380	43	448	1259
Total Volume	80	601	88	769	81	1687	37	1805	212	338	96	646	93	1783	209	2085	5305
% App. Total	10.4	78.2	11.4		4.5	93.5	2		32.8	52.3	14.9		4.5	85.5	10		
PHF	.714	.894	.880	.882	.750	.859	.712	.850	.815	.862	.649	.808	.894	.881	.843	.885	.965

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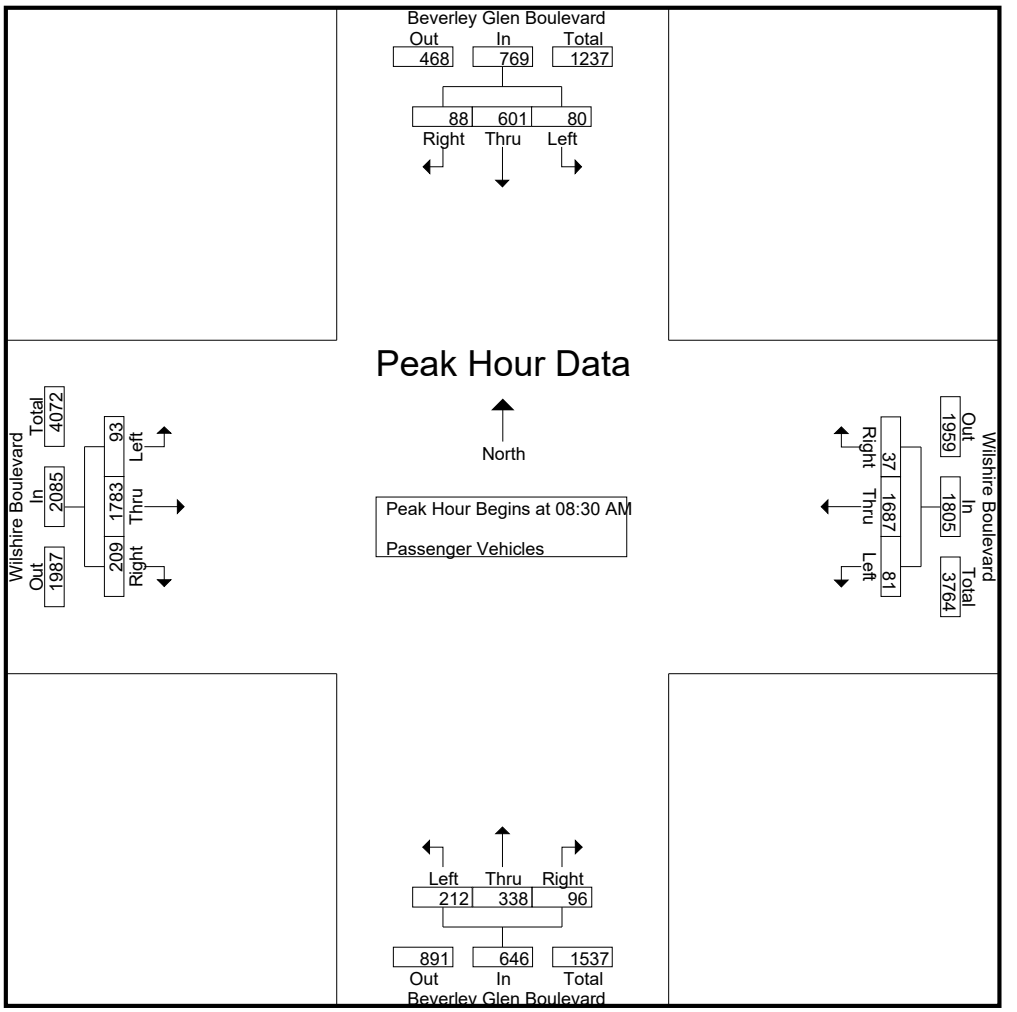

Peak Hour Analysis From 08:30 AM to 09:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:30 AM				08:30 AM				08:30 AM				08:30 AM			
+0 mins.	19	148	22	189	17	362	6	385	50	97	26	173	**26**	**506**	57	**589**
+15 mins.	19	166	19	204	16	403	6	425	**65**	**98**	**37**	**200**	18	442	47	507
+30 mins.	14	119	**25**	158	**27**	**491**	**13**	**531**	43	79	22	144	24	455	**62**	541
+45 mins.	**28**	**168**	22	**218**	21	431	12	464	54	64	11	129	25	380	43	448
Total Volume	80	601	88	769	81	1687	37	1805	212	338	96	646	93	1783	209	2085
% App. Total	10.4	78.2	11.4		4.5	93.5	2		32.8	52.3	14.9		4.5	85.5	10	
PHF	.714	.894	.880	.882	.750	.859	.712	.850	.815	.862	.649	.808	.894	.881	.843	.885

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Groups Printed- Dual Wheeled

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	1	0	1	1	3	0	4	6
07:15 AM	2	3	0	5	0	4	0	4	0	3	0	3	1	6	1	8	20
07:30 AM	0	0	1	1	1	3	0	4	0	0	0	0	1	2	3	6	11
07:45 AM	6	1	2	9	1	4	1	6	0	2	0	2	0	2	2	4	21
Total	8	4	3	15	2	12	1	15	0	6	0	6	3	13	6	22	58
08:00 AM	1	0	2	3	0	2	0	2	3	0	0	3	0	4	0	4	12
08:15 AM	0	0	0	0	0	6	0	6	0	4	1	5	1	2	1	4	15
08:30 AM	0	0	1	1	0	7	0	7	0	1	2	3	1	5	1	7	18
08:45 AM	0	0	1	1	0	4	0	4	0	0	0	0	0	2	0	2	7
Total	1	0	4	5	0	19	0	19	3	5	3	11	2	13	2	17	52
09:00 AM	0	2	0	2	0	4	1	5	1	1	0	2	0	5	0	5	14
09:15 AM	0	0	0	0	0	5	0	5	0	3	0	3	0	5	1	6	14
09:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	2	2	1	5	8
09:45 AM	0	1	2	3	0	5	1	6	0	4	0	4	0	10	3	13	26
Total	0	3	2	5	0	17	2	19	1	8	0	9	2	22	5	29	62
Grand Total	9	7	9	25	2	48	3	53	4	19	3	26	7	48	13	68	172
Apprch %	36	28	36		3.8	90.6	5.7		15.4	73.1	11.5		10.3	70.6	19.1		
Total %	5.2	4.1	5.2	14.5	1.2	27.9	1.7	30.8	2.3	11	1.7	15.1	4.1	27.9	7.6	39.5	

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:30 AM to 09:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30 AM																	
08:30 AM	0	0	**1**	1	0	**7**	0	**7**	0	1	**2**	**3**	**1**	**5**	**1**	**7**	**18**
08:45 AM	0	0	1	1	0	4	0	4	0	0	0	0	0	2	0	2	7
09:00 AM	0	**2**	0	**2**	0	4	**1**	5	**1**	1	0	2	0	5	0	5	14
09:15 AM	0	0	0	0	0	5	0	5	0	**3**	0	3	0	5	1	6	14
Total Volume	0	2	2	4	0	20	1	21	1	5	2	8	1	17	2	20	53
% App. Total	0	50	50		0	95.2	4.8		12.5	62.5	25		5	85	10		
PHF	.000	.250	.500	.500	.000	.714	.250	.750	.250	.417	.250	.667	.250	.850	.500	.714	.736

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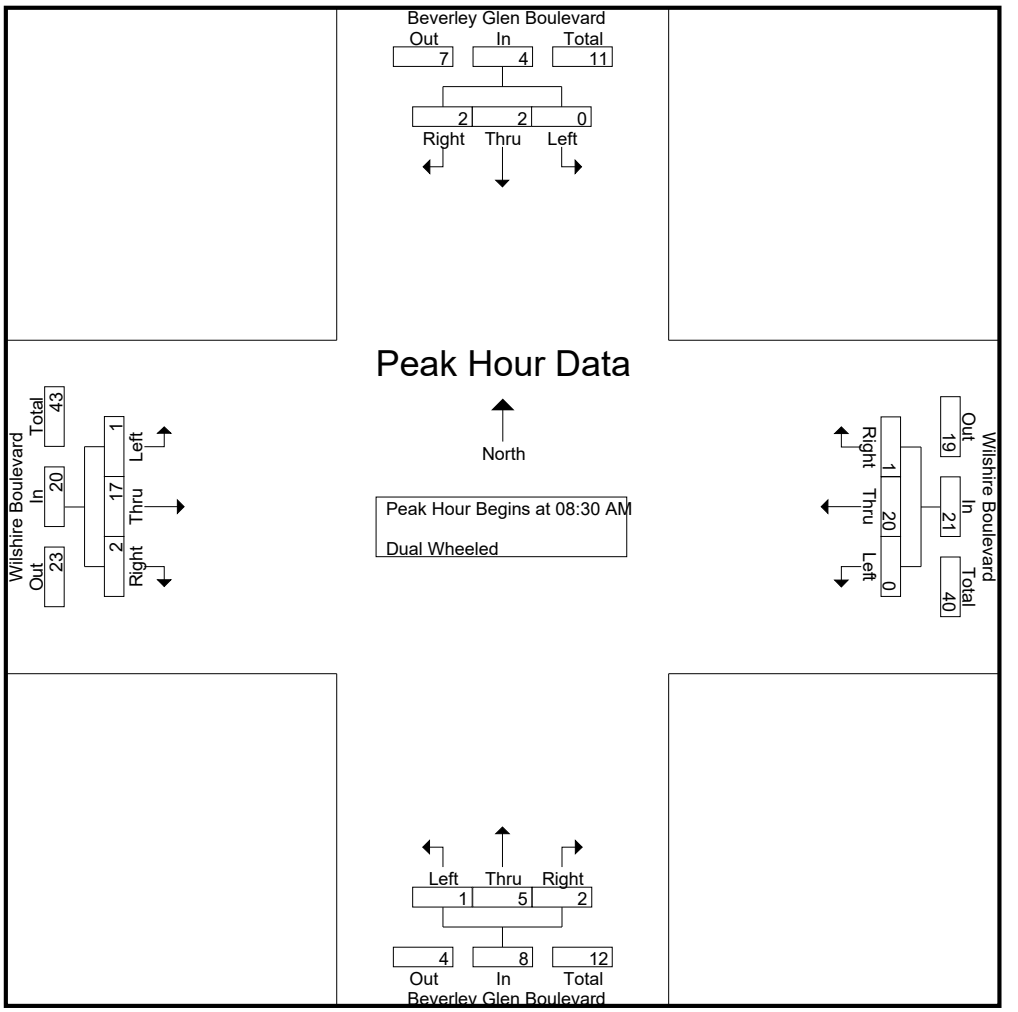

Peak Hour Analysis From 08:30 AM to 09:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:30 AM				08:30 AM				08:30 AM				08:30 AM			
+0 mins.	0	0	**1**	1	0	**7**	0	**7**	0	1	**2**	**3**	**1**	**5**	**1**	**7**
+15 mins.	0	0	1	1	0	4	0	4	0	0	0	0	0	2	0	2
+30 mins.	0	**2**	0	**2**	0	4	**1**	5	**1**	1	0	2	0	5	0	5
+45 mins.	0	0	0	0	0	5	0	5	0	**3**	0	3	0	5	1	6
Total Volume	0	2	2	4	0	20	1	21	1	5	2	8	1	17	2	20
% App. Total	0	50	50		0	95.2	4.8		12.5	62.5	25		5	85	10	
PHF	.000	.250	.500	.500	.000	.714	.250	.750	.250	.417	.250	.667	.250	.850	.500	.714

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Groups Printed- Buses

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	10	1	11	2	1	1	4	1	3	1	5	21
07:15 AM	0	0	0	0	0	7	0	7	0	4	0	4	0	4	3	7	18
07:30 AM	0	0	0	0	0	7	0	7	2	1	0	3	0	3	1	4	14
07:45 AM	0	0	0	0	0	3	0	3	1	0	0	1	0	3	3	6	10
Total	0	0	1	1	0	27	1	28	5	6	1	12	1	13	8	22	63
08:00 AM	0	0	0	0	0	4	0	4	1	0	0	1	0	4	2	6	11
08:15 AM	0	0	0	0	0	7	0	7	1	0	0	1	0	3	2	5	13
08:30 AM	0	0	0	0	0	10	0	10	1	0	0	1	1	2	2	5	16
08:45 AM	0	0	0	0	0	4	0	4	1	0	0	1	0	4	2	6	11
Total	0	0	0	0	0	25	0	25	4	0	0	4	1	13	8	22	51
09:00 AM	0	0	0	0	0	9	0	9	1	0	0	1	0	4	0	4	14
09:15 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	3	1	4	10
09:30 AM	0	0	0	0	0	8	0	8	1	0	0	1	0	5	0	5	14
09:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	1	3	6
Total	0	0	0	0	0	26	0	26	2	0	0	2	0	14	2	16	44
Grand Total	0	0	1	1	0	78	1	79	11	6	1	18	2	40	18	60	158
Apprch %	0	0	100		0	98.7	1.3		61.1	33.3	5.6		3.3	66.7	30		
Total %	0	0	0.6	0.6	0	49.4	0.6	50	7	3.8	0.6	11.4	1.3	25.3	11.4	38	

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:30 AM to 09:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30 AM																	
08:30 AM	0	0	0	0	0	**10**	0	**10**	**1**	0	0	**1**	**1**	2	**2**	5	**16**
08:45 AM	0	0	0	0	0	4	0	4	1	0	0	1	0	**4**	2	**6**	11
09:00 AM	0	0	0	0	0	9	0	9	1	0	0	1	0	4	0	4	14
09:15 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	3	1	4	10
Total Volume	0	0	0	0	0	29	0	29	3	0	0	3	1	13	5	19	51
% App. Total	0	0	0		0	100	0		100	0	0		5.3	68.4	26.3		
PHF	.000	.000	.000	.000	.000	.725	.000	.725	.750	.000	.000	.750	.250	.813	.625	.792	.797

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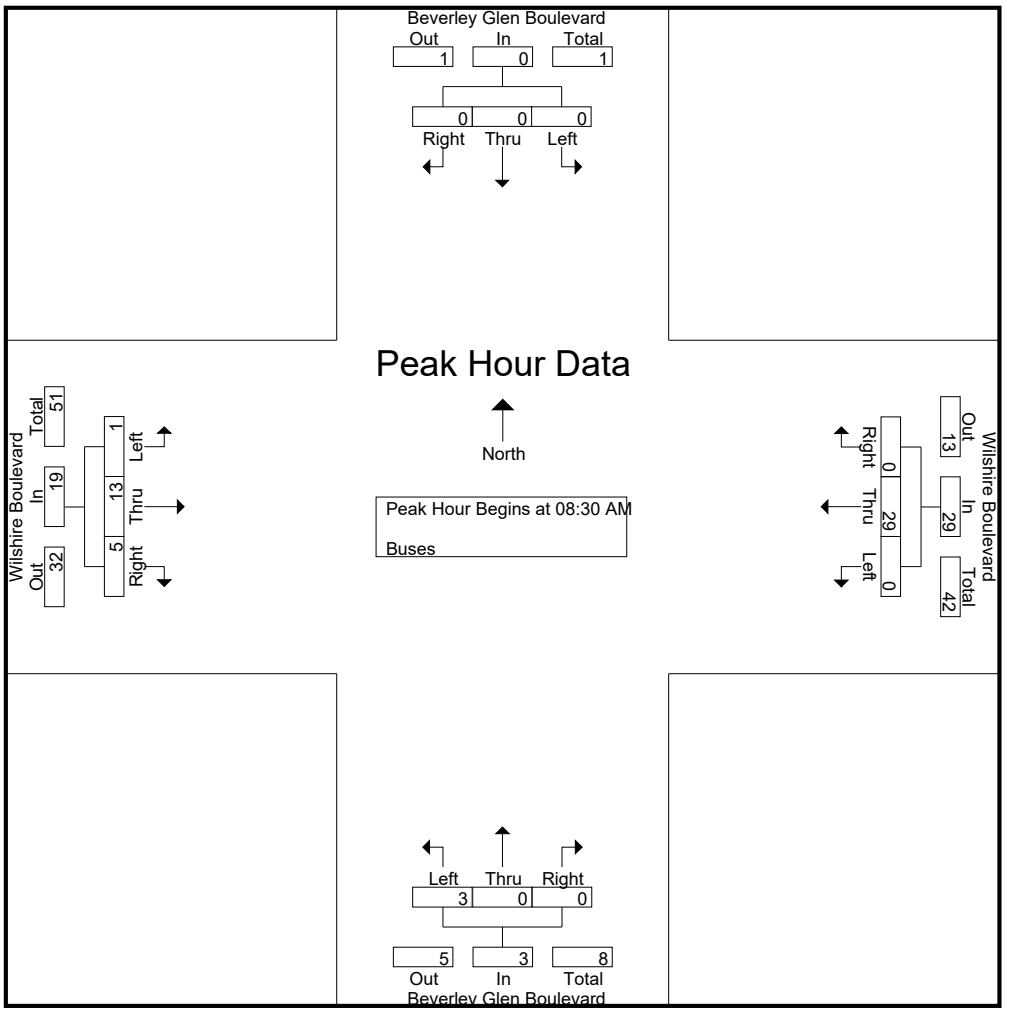

Peak Hour Analysis From 08:30 AM to 09:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:30 AM				08:30 AM				08:30 AM				08:30 AM			
+0 mins.	0	0	0	0	0	**10**	0	**10**	**1**	0	0	**1**	**1**	2	**2**	5
+15 mins.	0	0	0	0	0	4	0	4	1	0	0	1	0	**4**	2	**6**
+30 mins.	0	0	0	0	0	9	0	9	1	0	0	1	0	4	0	4
+45 mins.	0	0	0	0	0	6	0	6	0	0	0	0	0	3	1	4
Total Volume	0	0	0	0	0	29	0	29	3	0	0	3	1	13	5	19
% App. Total	0	0	0		0	100	0		100	0	0		5.3	68.4	26.3	
PHF	.000	.000	.000	.000	.000	.725	.000	.725	.750	.000	.000	.750	.250	.813	.625	.792

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Groups Printed- Passenger Vehicles - Dual Wheeled - Buses

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	23	135	17	175	29	364	23	416	33	124	23	180	36	458	55	549	1320
03:15 PM	25	126	18	169	28	340	23	391	43	105	16	164	29	430	56	515	1239
03:30 PM	26	138	13	177	24	351	18	393	34	99	22	155	43	389	46	478	1203
03:45 PM	25	145	16	186	25	340	22	387	38	124	23	185	21	380	57	458	1216
Total	99	544	64	707	106	1395	86	1587	148	452	84	684	129	1657	214	2000	4978
04:00 PM	19	128	18	165	35	323	20	378	36	121	20	177	35	438	53	526	1246
04:15 PM	31	133	10	174	39	305	21	365	56	120	37	213	28	406	47	481	1233
04:30 PM	38	143	12	193	33	347	17	397	42	113	18	173	24	465	45	534	1297
04:45 PM	25	153	18	196	34	323	18	375	42	139	21	202	22	448	51	521	1294
Total	113	557	58	728	141	1298	76	1515	176	493	96	765	109	1757	196	2062	5070
05:00 PM	33	136	18	187	35	396	12	443	48	130	23	201	28	469	61	558	1389
05:15 PM	32	106	15	153	36	394	14	444	57	172	25	254	15	424	62	501	1352
05:30 PM	24	105	12	141	28	449	6	483	44	152	20	216	30	502	64	596	1436
05:45 PM	27	133	11	171	25	375	11	411	50	175	27	252	30	413	41	484	1318
Total	116	480	56	652	124	1614	43	1781	199	629	95	923	103	1808	228	2139	5495
Grand Total	328	1581	178	2087	371	4307	205	4883	523	1574	275	2372	341	5222	638	6201	15543
Apprch %	15.7	75.8	8.5		7.6	88.2	4.2		22	66.4	11.6		5.5	84.2	10.3		
Total %	2.1	10.2	1.1	13.4	2.4	27.7	1.3	31.4	3.4	10.1	1.8	15.3	2.2	33.6	4.1	39.9	
Passenger Vehicles	327	1565	177	2069	368	4240	201	4809	505	1564	274	2343	337	5114	627	6078	15299
% Passenger Vehicles	99.7	99	99.4	99.1	99.2	98.4	98	98.5	96.6	99.4	99.6	98.8	98.8	97.9	98.3	98	98.4
Dual Wheeled	1	10	0	11	2	21	3	26	1	8	1	10	1	26	3	30	77
% Dual Wheeled	0.3	0.6	0	0.5	0.5	0.5	1.5	0.5	0.2	0.5	0.4	0.4	0.3	0.5	0.5	0.5	0.5
Buses	0	6	1	7	1	46	1	48	17	2	0	19	3	82	8	93	167
% Buses	0	0.4	0.6	0.3	0.3	1.1	0.5	1	3.3	0.1	0	0.8	0.9	1.6	1.3	1.5	1.1

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**33**	**136**	**18**	**187**	35	396	12	443	48	130	23	201	28	469	61	558	1389
05:15 PM	32	106	15	153	**36**	394	**14**	444	**57**	172	25	**254**	15	424	62	501	1352
05:30 PM	24	105	12	141	28	**449**	6	**483**	44	152	20	216	**30**	**502**	**64**	**596**	**1436**
05:45 PM	27	133	11	171	25	375	11	411	50	**175**	**27**	252	30	413	41	484	1318
Total Volume	116	480	56	652	124	1614	43	1781	199	629	95	923	103	1808	228	2139	5495
% App. Total	17.8	73.6	8.6		7	90.6	2.4		21.6	68.1	10.3		4.8	84.5	10.7		
PHF	.879	.882	.778	.872	.861	.899	.768	.922	.873	.899	.880	.908	.858	.900	.891	.897	.957

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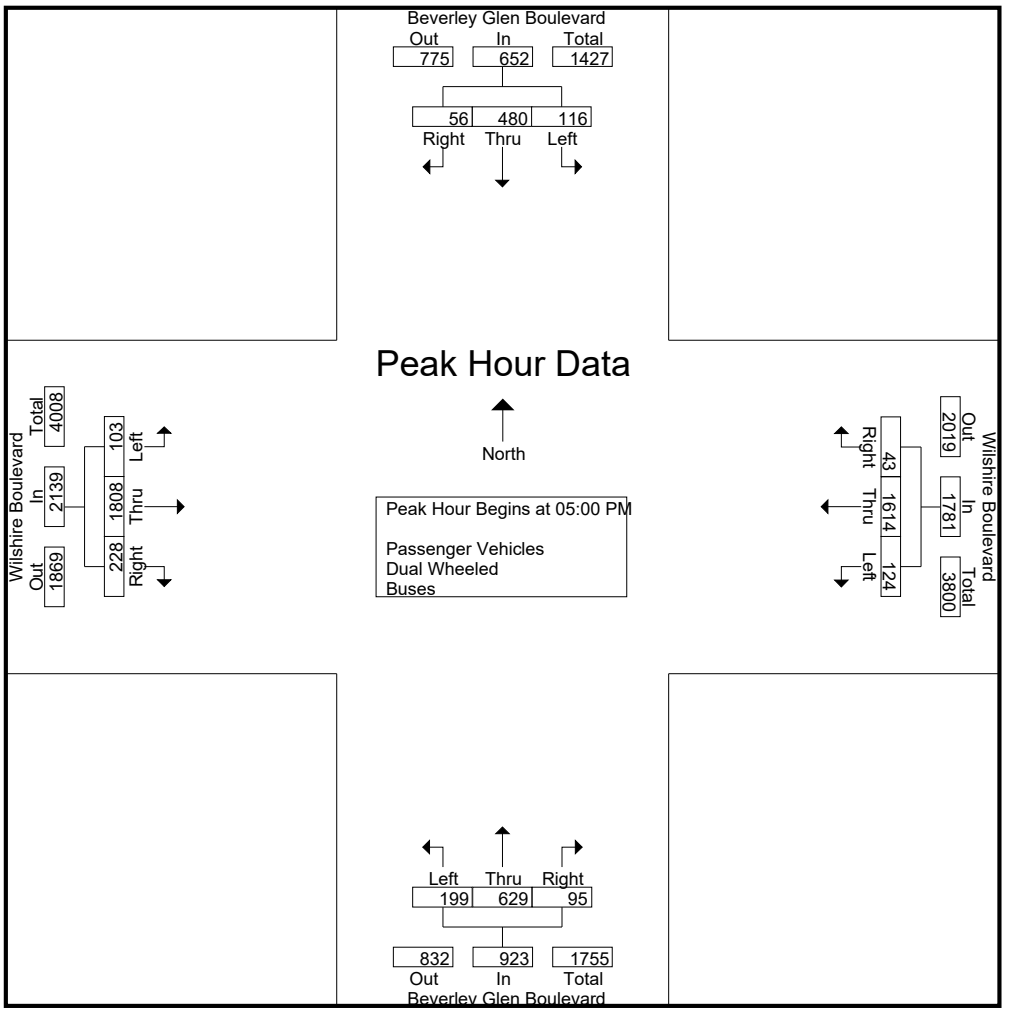

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				05:00 PM				04:45 PM			
+0 mins.	31	133	10	174	35	396	12	443	48	130	23	201	22	448	51	521
+15 mins.	**38**	143	12	193	**36**	394	**14**	444	**57**	172	25	**254**	28	469	61	558
+30 mins.	25	**153**	**18**	**196**	28	**449**	6	**483**	44	152	20	216	15	424	62	501
+45 mins.	33	136	18	187	25	375	11	411	50	**175**	**27**	252	**30**	**502**	**64**	**596**
Total Volume	127	565	58	750	124	1614	43	1781	199	629	95	923	95	1843	238	2176
% App. Total	16.9	75.3	7.7		7	90.6	2.4		21.6	68.1	10.3		4.4	84.7	10.9	
PHF	.836	.923	.806	.957	.861	.899	.768	.922	.873	.899	.880	.908	.792	.918	.930	.913

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Groups Printed- Passenger Vehicles

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	23	134	17	174	29	355	23	407	32	123	23	178	36	451	55	542	1301
03:15 PM	25	124	18	167	28	331	21	380	43	103	16	162	29	422	56	507	1216
03:30 PM	26	135	13	174	24	346	18	388	33	99	22	154	43	380	45	468	1184
03:45 PM	25	144	16	185	25	334	21	380	37	122	23	182	21	374	52	447	1194
Total	99	537	64	700	106	1366	83	1555	145	447	84	676	129	1627	208	1964	4895
04:00 PM	19	127	18	164	34	319	20	373	34	120	20	174	35	422	53	510	1221
04:15 PM	31	131	10	172	37	299	21	357	54	120	37	211	27	396	46	469	1209
04:30 PM	38	143	12	193	33	343	17	393	41	112	18	171	24	457	44	525	1282
04:45 PM	25	152	18	195	34	322	18	374	40	139	21	200	22	437	51	510	1279
Total	113	553	58	724	138	1283	76	1497	169	491	96	756	108	1712	194	2014	4991
05:00 PM	33	134	18	185	35	387	12	434	46	129	23	198	27	459	61	547	1364
05:15 PM	32	106	15	153	36	389	13	438	55	171	25	251	15	418	60	493	1335
05:30 PM	24	104	12	140	28	443	6	477	42	151	19	212	29	489	63	581	1410
05:45 PM	26	131	10	167	25	372	11	408	48	175	27	250	29	409	41	479	1304
Total	115	475	55	645	124	1591	42	1757	191	626	94	911	100	1775	225	2100	5413
Grand Total	327	1565	177	2069	368	4240	201	4809	505	1564	274	2343	337	5114	627	6078	15299
Apprch %	15.8	75.6	8.6		7.7	88.2	4.2		21.6	66.8	11.7		5.5	84.1	10.3		
Total %	2.1	10.2	1.2	13.5	2.4	27.7	1.3	31.4	3.3	10.2	1.8	15.3	2.2	33.4	4.1	39.7	

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**33**	**134**	**18**	**185**	35	387	12	434	46	129	23	198	27	459	61	547	1364
05:15 PM	32	106	15	153	**36**	389	**13**	438	**55**	171	25	**251**	15	418	60	493	1335
05:30 PM	24	104	12	140	28	**443**	6	**477**	42	151	19	212	**29**	**489**	**63**	**581**	**1410**
05:45 PM	26	131	10	167	25	372	11	408	48	**175**	**27**	250	29	409	41	479	1304
Total Volume	115	475	55	645	124	1591	42	1757	191	626	94	911	100	1775	225	2100	5413
% App. Total	17.8	73.6	8.5		7.1	90.6	2.4		21	68.7	10.3		4.8	84.5	10.7		
PHF	.871	.886	.764	.872	.861	.898	.808	.921	.868	.894	.870	.907	.862	.907	.893	.904	.960

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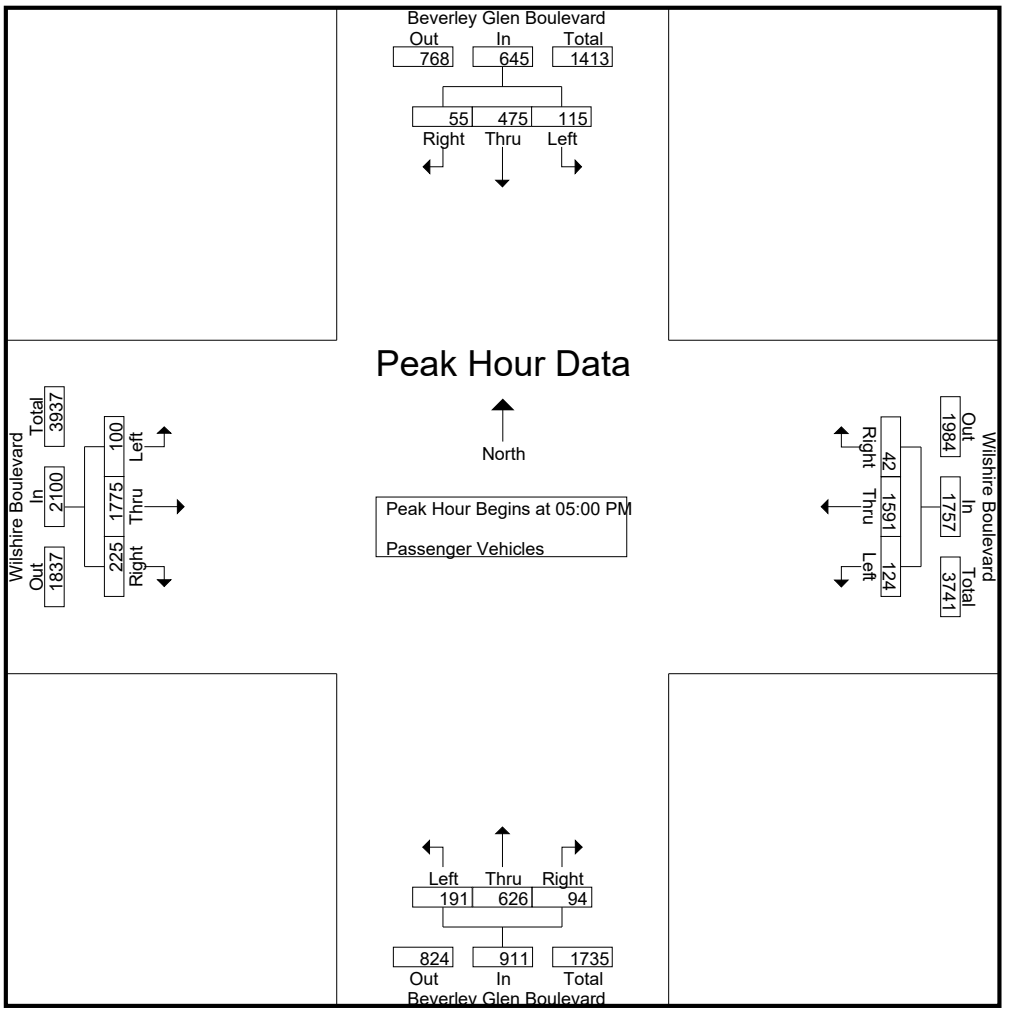
Weather: Clear

File Name : LACBEWIPM
Site Code : 16616232
Start Date : 4/27/2016
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	**33**	**134**	**18**	**185**	35	387	12	434	46	129	23	198	27	459	61	547
+15 mins.	32	106	15	153	**36**	389	**13**	438	**55**	171	25	**251**	15	418	60	493
+30 mins.	24	104	12	140	28	**443**	6	**477**	42	151	19	212	**29**	**489**	**63**	**581**
+45 mins.	26	131	10	167	25	372	11	408	48	**175**	**27**	250	29	409	41	479
Total Volume	115	475	55	645	124	1591	42	1757	191	626	94	911	100	1775	225	2100
% App. Total	17.8	73.6	8.5		7.1	90.6	2.4		21	68.7	10.3		4.8	84.5	10.7	
PHF	.871	.886	.764	.872	.861	.898	.808	.921	.868	.894	.870	.907	.862	.907	.893	.904

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Groups Printed- Dual Wheeled

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	1	0	1	0	3	0	3	0	1	0	1	0	1	0	1	6
03:15 PM	0	2	0	2	0	5	2	7	0	2	0	2	0	4	0	4	15
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	1	0	1	0	4	0	4	0	2	0	2	0	1	1	2	9
Total	0	4	0	4	0	12	2	14	0	5	0	5	0	6	1	7	30
04:00 PM	0	1	0	1	0	0	0	0	1	0	0	1	0	4	0	4	6
04:15 PM	0	1	0	1	2	1	0	3	0	0	0	0	0	4	0	4	8
04:30 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	2
04:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	3	0	3	4
Total	0	3	0	3	2	2	0	4	1	1	0	2	0	11	0	11	20
05:00 PM	0	2	0	2	0	4	0	4	0	0	0	0	0	1	0	1	7
05:15 PM	0	0	0	0	0	2	1	3	0	1	0	1	0	2	1	3	7
05:30 PM	0	1	0	1	0	0	0	0	0	1	1	2	1	5	1	7	10
05:45 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	1	0	1	3
Total	1	3	0	4	0	7	1	8	0	2	1	3	1	9	2	12	27
Grand Total	1	10	0	11	2	21	3	26	1	8	1	10	1	26	3	30	77
Apprch %	9.1	90.9	0		7.7	80.8	11.5		10	80	10		3.3	86.7	10		
Total %	1.3	13	0	14.3	2.6	27.3	3.9	33.8	1.3	10.4	1.3	13	1.3	33.8	3.9	39	

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	**2**	0	**2**	0	**4**	0	**4**	0	0	0	0	0	1	0	1	7
05:15 PM	0	0	0	0	0	2	**1**	3	0	**1**	0	1	0	2	**1**	3	7
05:30 PM	0	1	0	1	0	0	0	0	0	1	**1**	**2**	**1**	**5**	1	**7**	**10**
05:45 PM	**1**	0	0	1	0	1	0	1	0	0	0	0	0	1	0	1	3
Total Volume	1	3	0	4	0	7	1	8	0	2	1	3	1	9	2	12	27
% App. Total	25	75	0		0	87.5	12.5		0	66.7	33.3		8.3	75	16.7		
PHF	.250	.375	.000	.500	.000	.438	.250	.500	.000	.500	.250	.375	.250	.450	.500	.429	.675

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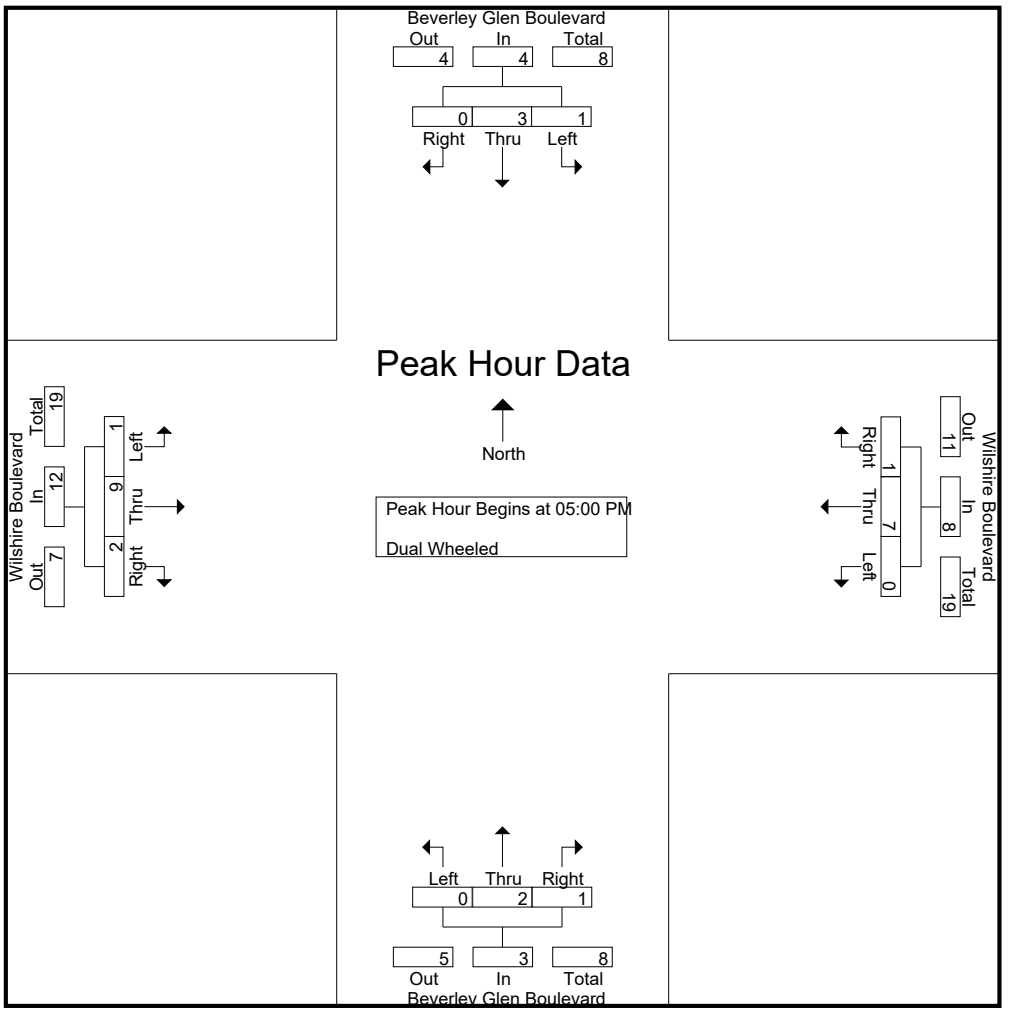

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	**2**	0	**2**	0	**4**	0	**4**	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	2	**1**	3	0	**1**	0	1	0	2	**1**	3
+30 mins.	0	1	0	1	0	0	0	0	0	1	**1**	**2**	**1**	**5**	1	**7**
+45 mins.	**1**	0	0	1	0	1	0	1	0	0	0	0	0	1	0	1
Total Volume	1	3	0	4	0	7	1	8	0	2	1	3	1	9	2	12
% App. Total	25	75	0		0	87.5	12.5		0	66.7	33.3		8.3	75	16.7	
PHF	.250	.375	.000	.500	.000	.438	.250	.500	.000	.500	.250	.375	.250	.450	.500	.429

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Site Code : 16616232
Start Date : 4/27/2016
Page No : 1

Groups Printed- Buses

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	6	0	6	1	0	0	1	0	6	0	6	13
03:15 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4	8
03:30 PM	0	3	0	3	0	5	0	5	1	0	0	1	0	9	1	10	19
03:45 PM	0	0	0	0	0	2	1	3	1	0	0	1	0	5	4	9	13
Total	0	3	0	3	0	17	1	18	3	0	0	3	0	24	5	29	53
04:00 PM	0	0	0	0	1	4	0	5	1	1	0	2	0	12	0	12	19
04:15 PM	0	1	0	1	0	5	0	5	2	0	0	2	1	6	1	8	16
04:30 PM	0	0	0	0	0	3	0	3	1	0	0	1	0	8	1	9	13
04:45 PM	0	0	0	0	0	1	0	1	2	0	0	2	0	8	0	8	11
Total	0	1	0	1	1	13	0	14	6	1	0	7	1	34	2	37	59
05:00 PM	0	0	0	0	0	5	0	5	2	1	0	3	1	9	0	10	18
05:15 PM	0	0	0	0	0	3	0	3	2	0	0	2	0	4	1	5	10
05:30 PM	0	0	0	0	0	6	0	6	2	0	0	2	0	8	0	8	16
05:45 PM	0	2	1	3	0	2	0	2	2	0	0	2	1	3	0	4	11
Total	0	2	1	3	0	16	0	16	8	1	0	9	2	24	1	27	55
Grand Total	0	6	1	7	1	46	1	48	17	2	0	19	3	82	8	93	167
Apprch %	0	85.7	14.3		2.1	95.8	2.1		89.5	10.5	0		3.2	88.2	8.6		
Total %	0	3.6	0.6	4.2	0.6	27.5	0.6	28.7	10.2	1.2	0	11.4	1.8	49.1	4.8	55.7	

	Beverley Glen Boulevard Southbound				Wilshire Boulevard Westbound				Beverley Glen Boulevard Northbound				Wilshire Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	5	0	5	**2**	**1**	0	**3**	**1**	**9**	0	**10**	**18**
05:15 PM	0	0	0	0	0	3	0	3	2	0	0	2	0	4	**1**	5	10
05:30 PM	0	0	0	0	0	**6**	0	**6**	2	0	0	2	0	8	0	8	16
05:45 PM	0	**2**	**1**	**3**	0	2	0	2	2	0	0	2	1	3	0	4	11
Total Volume	0	2	1	3	0	16	0	16	8	1	0	9	2	24	1	27	55
% App. Total	0	66.7	33.3		0	100	0		88.9	11.1	0		7.4	88.9	3.7		
PHF	.000	.250	.250	.250	.000	.667	.000	.667	1.00	.250	.000	.750	.500	.667	.250	.675	.764

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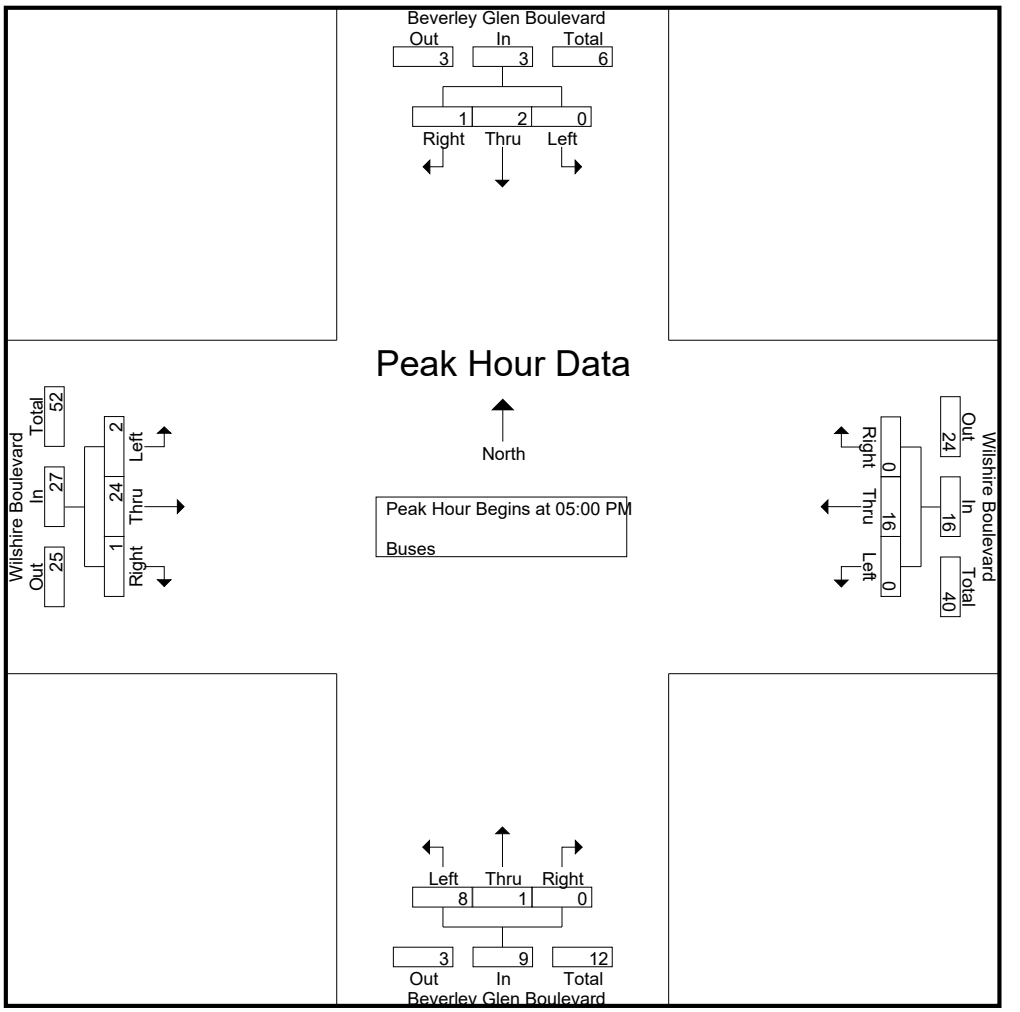


Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	5	0	5	**2**	**1**	0	**3**	**1**	**9**	0	**10**
+15 mins.	0	0	0	0	0	3	0	3	2	0	0	2	0	4	**1**	5
+30 mins.	0	0	0	0	0	**6**	0	**6**	2	0	0	2	0	8	0	8
+45 mins.	0	**2**	**1**	**3**	0	2	0	2	2	0	0	2	1	3	0	4
Total Volume	0	2	1	3	0	16	0	16	8	1	0	9	2	24	1	27
% App. Total	0	66.7	33.3		0	100	0		88.9	11.1	0		7.4	88.9	3.7	
PHF	.000	.250	.250	.250	.000	.667	.000	.667	1.000	.250	.000	.750	.500	.667	.250	.675

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Beverley Glen Boulevard

East/West Wilshire Boulevard

Day: Wednesday **Date:** April 27, 2016 **Weather:** CLEAR

Hours: 7-10AM 3-6PM **Staff:** CUI

School Day: YES **District:** Western I/S CODE 12918

	N/B	S/B	E/B	W/B
DUAL-WHEELED	36	36	98	79
BIKES	2	6	12	15
BUSES	37	8	153	127

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	217	7.45	218	9.15	601	8.30	568	7.30
PM PK 15 MIN	254	5.15	196	4.45	596	5.30	483	5.30
AM PK HOUR	809	7.45	774	8.00	2126	8.15	2055	9.00
PM PK HOUR	923	5.00	750	4.15	2176	4.45	1781	5.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	172	364	58	594
8-9	249	442	102	793
9-10	193	315	76	584
3-4	148	452	84	684
4-5	176	493	96	765
5-6	199	629	95	923
TOTAL	1137	2695	511	4343

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	77	441	101	619
8-9	90	595	89	774
9-10	87	564	91	742
3-4	99	544	64	707
4-5	113	557	58	728
5-6	116	480	56	652
TOTAL	582	3181	459	4222

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1213	17	1	24	0
1567	24	0	40	1
1326	27	0	36	0
1391	22	3	10	2
1493	13	0	13	2
1575	25	1	21	0
8565	128	5	144	5

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	66	1227	132	1425
8-9	101	1722	206	2029
9-10	102	1628	216	1946
3-4	129	1657	214	2000
4-5	109	1757	196	2062
5-6	103	1808	228	2139
TOTAL	610	9799	1192	11601

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	50	1812	38	1900
8-9	75	1530	21	1626
9-10	107	1896	52	2055
3-4	106	1395	86	1587
4-5	141	1298	76	1515
5-6	124	1614	43	1781
TOTAL	603	9545	316	10464

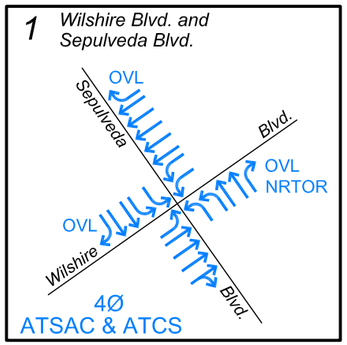
TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
3325	18	1	21	5
3655	27	1	23	2
4001	17	0	30	1
3587	25	3	15	1
3577	22	0	4	0
3920	33	3	10	1
22065	142	8	103	10

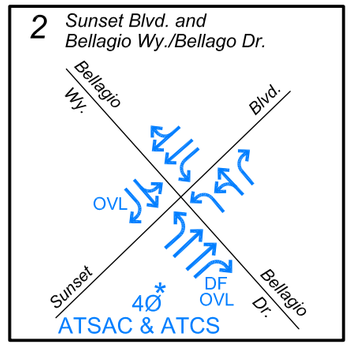
(Rev Oct 06)

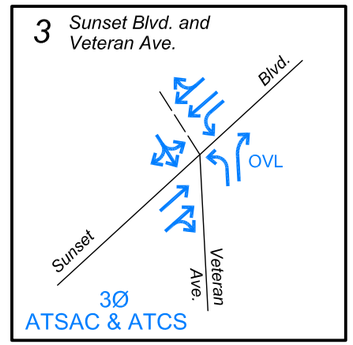
ATTACHMENT B

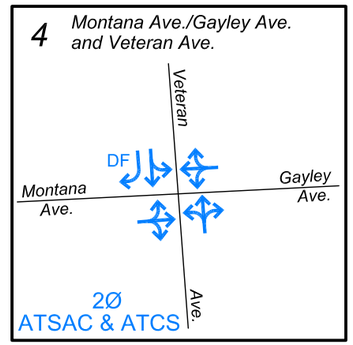
EXISTING (2017) STUDY INTERSECTION

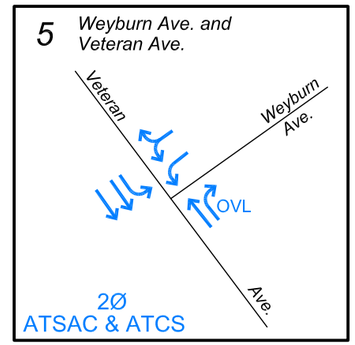
GEOMETRICS AND TRAFFIC CONTROL CONDITIONS

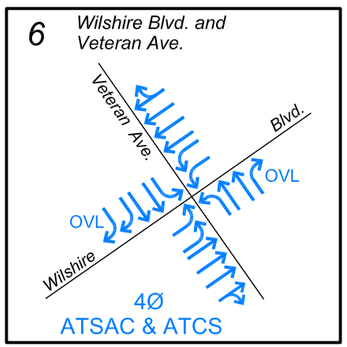


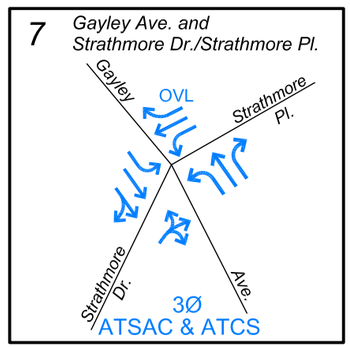


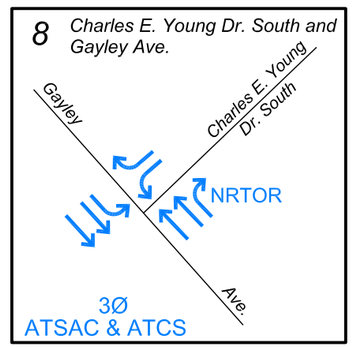


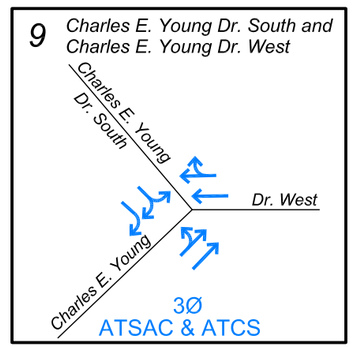


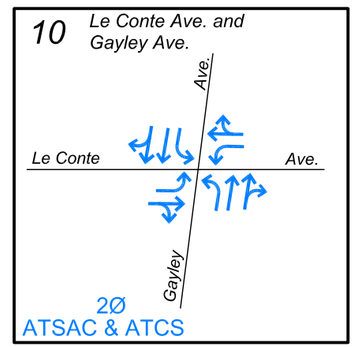


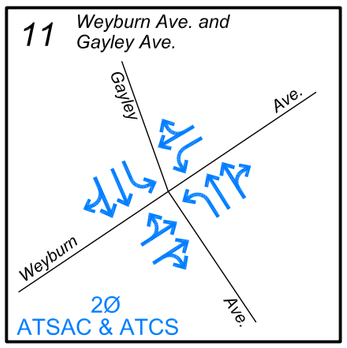


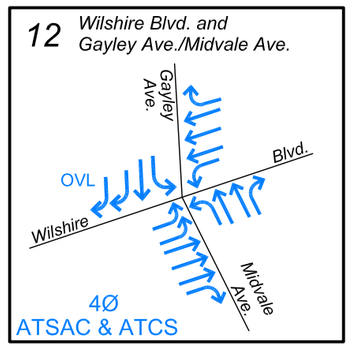


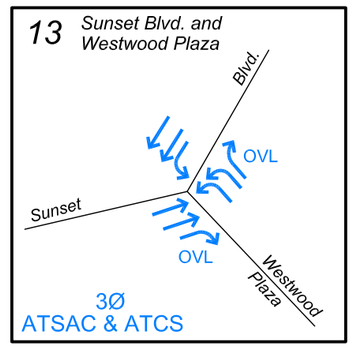


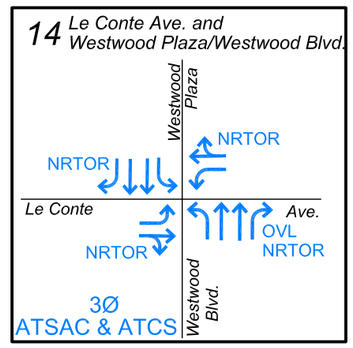


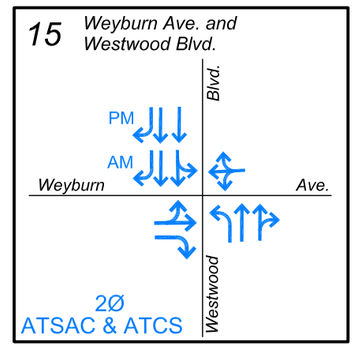


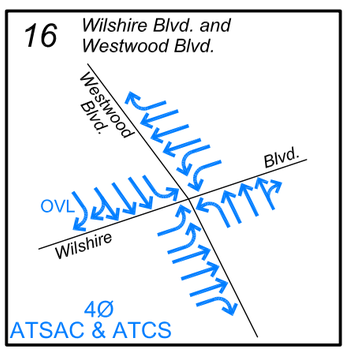


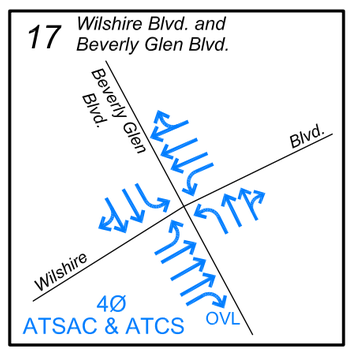












LEGEND:

Ø	: NUMBER OF SIGNAL PHASES
ATSAC	: AUTOMATED TRAFFIC SURVEILLANCE AND CONTROL
ATCS	: ADAPTIVE TRAFFIC CONTROL SYSTEM
OVL	: RIGHT TURN OVERLAP WITH EXISTING PHASE
NRTOR	: NO RIGHT TURN ON RED
*	: NORTH AND SOUTH OPPOSED PHASING
DF	: DEFACTO

NORTH

7/11/2017

FN: UCLALRDPAmendmentTISILANE-CONF

ATTACHMENT B

STUDY INTERSECTION GEOMETRICS
AND SIGNAL PHASING

CRAIN & ASSOCIATES
Transportation Planning
Traffic Engineering
300 Corporate Pointe, Suite 470
Culver City, California 90230
PH (310) 473 6508 F (310) 444 9771
www.crainandassociates.com

ATTACHMENT C

CMA LOS CALCULATION WORKSHEETS

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WILSHIRE BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
1	East-West Street:	SEPULVEDA BOULEVARD	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		3
	EB-- 0	WB--		3
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1031

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	235	2	**129**
	Left-Through		0	
	Through	302	2	151
	Through-Right		0	
	Right	322	1	248
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	311	2	171
	Left-Through		0	
	Through	779	2	390
	Through-Right		0	
	Right	598	1	**486**
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	112	1	112
	Left-Through		0	
	Through	2003	3	**559**
	Through-Right		1	
	Right	234	0	234
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	134	2	**74**
	Left-Through		0	
	Through	2551	5	510
	Through-Right		0	
	Right	127	1	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	615
	East-West:	633
	SUM:	1248
VOLUME/CAPACITY *(V/C)* RATIO:		1.210
V/C LESS ATSAC/ATCS ADJUSTMENT:		**1.110**
LEVEL OF SERVICE (LOS):		**F**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WILSHIRE BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
1	East-West Street:	SEPULVEDA BOULEVARD	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases					0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	3	SB--		3
	EB--	0	WB--		3
ATSAC-1 or ATSAC+ATCS-2?					2
Override Capacity					1031

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	330	2	182
	Left-Through		0	
	Through	826	2	**413**
	Through-Right		0	
	Right	348	1	112
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	144	2	**79**
	Left-Through		0	
	Through	558	2	279
	Through-Right		0	
	Right	216	1	0
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	312	1	312
	Left-Through		0	
	Through	2124	3	**591**
	Through-Right		1	
	Right	238	0	238
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	429	2	**236**
	Left-Through		0	
	Through	2182	5	436
	Through-Right		0	
	Right	199	1	120
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	492
	East-West:	827
	SUM:	1319
VOLUME/CAPACITY *(V/C)* RATIO:		1.279
V/C LESS ATSAC/ATCS ADJUSTMENT:		**1.179**
LEVEL OF SERVICE (LOS):		**F**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	SUNSET BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
2	East-West Street:	BELLAGIO WAY/BELAGIO DRIVE	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		3
	EB-- 3	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1031

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	73	1	**40**
	Left-Through		1	
	Through	6	0	40
	Through-Right		0	
	Right	33	1	23
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	167	0	167
	Left-Through		1	
	Through	23	0	**190**
	Through-Right		0	
	Right	302	1	143
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	159	1	159
	Left-Through		0	
	Through	1611	2	**806**
	Through-Right		0	
	Right	204	1	164
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	20	1	**20**
	Left-Through		0	
	Through	1081	1	592
	Through-Right		1	
	Right	103	0	103
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	230
	East-West:	826
	SUM:	1056
VOLUME/CAPACITY *(V/C)* RATIO:		1.024
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.924**
LEVEL OF SERVICE (LOS):		**E**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	SUNSET BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
2	East-West Street:	BELLAGIO WAY/BELAGIO DRIVE	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		3
	EB-- 3	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1031

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	335	1	**192**
	Left-Through		1	
	Through	48	0	192
	Through-Right		0	
	Right	31	1	26
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	102	0	102
	Left-Through		1	
	Through	4	0	**106**
	Through-Right		0	
	Right	319	1	32
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	287	1	**287**
	Left-Through		0	
	Through	822	2	411
	Through-Right		0	
	Right	117	1	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	11	1	11
	Left-Through		0	
	Through	1161	1	**624**
	Through-Right		1	
	Right	86	0	86
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	298
	East-West:	911
	SUM:	1209
VOLUME/CAPACITY *(V/C)* RATIO:		1.173
V/C LESS ATSAC/ATCS ADJUSTMENT:		1.073
LEVEL OF SERVICE (LOS):		F

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	SUNSET BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
3	East-West Street:	VETERAN AVENUE	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1069

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	56	0	56
	Left-Through		1	
	Through	1	0	**57**
	Through-Right		0	
	Right	395	1	55
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	0	0	**0**
	Left-Through		0	
	Through	0	0	0
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		1	
	Left-Right			
EASTBOUND	Left	0	0	0
	Left-Through		0	
	Through	1553	1	**855**
	Through-Right		1	
	Right	156	0	156
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	340	1	**340**
	Left-Through		0	
	Through	1163	1	583
	Through-Right		1	
	Right	2	0	2
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	57
	East-West:	1195
	SUM:	1252
VOLUME/CAPACITY *(V/C)* RATIO:		1.171
V/C LESS ATSAC/ATCS ADJUSTMENT:		1.071
LEVEL OF SERVICE (LOS):		F

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	SUNSET BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
3	East-West Street:	VETERAN AVENUE	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1069

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	354	0	**354**
	Left-Through		1	
	Through	0	0	354
	Through-Right		0	
	Right	404	1	104
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	0	0	0
	Left-Through		0	
	Through	1	0	**1**
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		1	
	Left-Right			
EASTBOUND	Left	0	0	**0**
	Left-Through		0	
	Through	805	1	460
	Through-Right		1	
	Right	114	0	114
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	300	1	300
	Left-Through		0	
	Through	1536	1	**768**
	Through-Right		1	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	355
	East-West:	768
	SUM:	1123
VOLUME/CAPACITY *(V/C)* RATIO:		1.051
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.951**
LEVEL OF SERVICE (LOS):		**E**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	MONTANA AVENUE/GAYLEY AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
4	East-West Street:	VETERAN AVENUE	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	24	0	**24**
	Left-Through		0	
	Through	219	0	268
	Through-Right		0	
	Right	25	0	0
	Left-Through-Right		1	
	Left-Right			
SOUTHBOUND	Left	173	0	173
	Left-Through		1	
	Through	308	0	**481**
	Through-Right		0	
	Right	73	1	73
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	163	0	163
	Left-Through		0	
	Through	495	0	**712**
	Through-Right		0	
	Right	54	0	0
	Left-Through-Right		1	
	Left-Right			
WESTBOUND	Left	8	0	**8**
	Left-Through		0	
	Through	144	0	195
	Through-Right		0	
	Right	43	0	0
	Left-Through-Right		1	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	505
	East-West:	720
	SUM:	1225
VOLUME/CAPACITY *(V/C)* RATIO:		0.817
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.717**
LEVEL OF SERVICE (LOS):		**C**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	MONTANA AVENUE/GAYLEY AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
4	East-West Street:	VETERAN AVENUE	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	80	0	80
	Left-Through		0	
	Through	542	0	**658**
	Through-Right		0	
	Right	36	0	0
	Left-Through-Right		1	
	Left-Right			
SOUTHBOUND	Left	68	0	**68**
	Left-Through		1	
	Through	250	0	318
	Through-Right		0	
	Right	117	1	117
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	55	0	**55**
	Left-Through		0	
	Through	144	0	237
	Through-Right		0	
	Right	38	0	0
	Left-Through-Right		1	
	Left-Right			
WESTBOUND	Left	26	0	26
	Left-Through		0	
	Through	489	0	**873**
	Through-Right		0	
	Right	358	0	0
	Left-Through-Right		1	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	726
	East-West:	928
	SUM:	1654
VOLUME/CAPACITY *(V/C)* RATIO:		1.103
V/C LESS ATSAC/ATCS ADJUSTMENT:		**1.003**
LEVEL OF SERVICE (LOS):		**F**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WEYBURN AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
5	East-West Street:	VETERAN AVENUE	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0
	Left-Through		0	
	Through	314	1	**314**
	Through-Right		0	
	Right	218	1	150
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	95	1	**95**
	Left-Through		0	
	Through	714	2	357
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	0	0	0
	Left-Through		0	
	Through	0	0	**0**
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	98	1	**68**
	Left-Through		0	
	Through	0	0	68
	Through-Right		0	
	Right	37	0	0
	Left-Through-Right		1	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	409
	East-West:	68
	SUM:	477
VOLUME/CAPACITY *(V/C)* RATIO:		0.318
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.218
LEVEL OF SERVICE (LOS):		A

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WEYBURN AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
5	East-West Street:	VETERAN AVENUE	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0
	Left-Through		0	
	Through	845	1	**845**
	Through-Right		0	
	Right	142	1	0
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	45	1	**45**
	Left-Through		0	
	Through	417	2	209
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	0	0	0
	Left-Through		0	
	Through	0	0	**0**
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	453	1	**305**
	Left-Through		0	
	Through	0	0	305
	Through-Right		0	
	Right	157	0	0
	Left-Through-Right		1	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	890
	East-West:	305
	SUM:	1195
VOLUME/CAPACITY *(V/C)* RATIO:		0.797
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.697**
LEVEL OF SERVICE (LOS):		**B**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WILSHIRE BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
6	East-West Street:	VETERAN AVENUE	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		3
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1031

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	248	1	248
	Left-Through		0	
	Through	463	2	**232**
	Through-Right		0	
	Right	99	1	63
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	136	1	**136**
	Left-Through		0	
	Through	213	2	107
	Through-Right		0	
	Right	374	2	0
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	500	2	275
	Left-Through		0	
	Through	3651	3	**960**
	Through-Right		1	
	Right	188	0	188
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	65	2	**36**
	Left-Through		0	
	Through	2231	3	568
	Through-Right		1	
	Right	39	0	39
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	368
	East-West:	996
	SUM:	1364
VOLUME/CAPACITY *(V/C)* RATIO:		1.323
V/C LESS ATSAC/ATCS ADJUSTMENT:		**1.223**
LEVEL OF SERVICE (LOS):		**F**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WILSHIRE BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
6	East-West Street:	VETERAN AVENUE	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		3
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1031

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	259	1	**259**
	Left-Through		0	
	Through	383	2	192
	Through-Right		0	
	Right	108	1	79
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	112	1	112
	Left-Through		0	
	Through	319	2	160
	Through-Right		0	
	Right	896	2	**272**
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	402	2	**221**
	Left-Through		0	
	Through	2311	3	616
	Through-Right		1	
	Right	152	0	152
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	52	2	29
	Left-Through		0	
	Through	2010	3	**518**
	Through-Right		1	
	Right	62	0	62
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	531
	East-West:	739
	SUM:	1270
VOLUME/CAPACITY *(V/C)* RATIO:		1.232
V/C LESS ATSAC/ATCS ADJUSTMENT:		**1.132**
LEVEL OF SERVICE (LOS):		**F**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	STRATHMORE DR./STRATHMORE PL.	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
7	East-West Street:	GAYLEY AVENUE	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		3
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	303	1	**303**
	Left-Through		0	
	Through	431	1	431
	Through-Right		0	
	Right	13	1	0
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	6	1	6
	Left-Through		0	
	Through	152	1	152
	Through-Right		1	
	Right	165	0	**165**
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	4	0	4
	Left-Through		0	
	Through	66	0	**82**
	Through-Right		0	
	Right	12	0	0
	Left-Through-Right		1	
	Left-Right			
WESTBOUND	Left	68	1	**68**
	Left-Through		0	
	Through	17	1	17
	Through-Right		0	
	Right	25	1	19
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	468
	East-West:	150
	SUM:	618
VOLUME/CAPACITY *(V/C)* RATIO:		0.434
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.334**
LEVEL OF SERVICE (LOS):		**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	STRATHMORE DR./STRATHMORE PL.	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
7	East-West Street:	GAYLEY AVENUE	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		3
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	37	1	37
	Left-Through		0	
	Through	582	1	**582**
	Through-Right		0	
	Right	128	1	38
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	68	1	**68**
	Left-Through		0	
	Through	204	1	110
	Through-Right		1	
	Right	16	0	16
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	8	0	8
	Left-Through		0	
	Through	83	0	**122**
	Through-Right		0	
	Right	31	0	0
	Left-Through-Right		1	
	Left-Right			
WESTBOUND	Left	181	1	**181**
	Left-Through		0	
	Through	114	1	114
	Through-Right		0	
	Right	245	1	177
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	650
	East-West:	303
	SUM:	953
VOLUME/CAPACITY *(V/C)* RATIO:		0.669
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.569**
LEVEL OF SERVICE (LOS):		**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	CHARLES E. YOUNG DRIVE SOUTH	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
8	East-West Street:	GAYLEY AVENUE	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 2	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0
	Left-Through		0	
	Through	307	2	154
	Through-Right		0	
	Right	209	1	**209**
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	146	1	**146**
	Left-Through		0	
	Through	316	2	158
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	0	0	0
	Left-Through		0	
	Through	0	0	**0**
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	107	1	**107**
	Left-Through		0	
	Through	0	0	0
	Through-Right		0	
	Right	30	1	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	355
	East-West:	107
	SUM:	462
VOLUME/CAPACITY *(V/C)* RATIO:		0.324
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.224**
LEVEL OF SERVICE (LOS):		**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	CHARLES E. YOUNG DRIVE SOUTH	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
8	East-West Street:	GAYLEY AVENUE	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 2	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0
	Left-Through		0	
	Through	456	2	**228**
	Through-Right		0	
	Right	172	1	172
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	52	1	**52**
	Left-Through		0	
	Through	279	2	140
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	0	0	0
	Left-Through		0	
	Through	0	0	**0**
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	411	1	**411**
	Left-Through		0	
	Through	0	0	0
	Through-Right		0	
	Right	213	1	187
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	280
	East-West:	411
	SUM:	691
VOLUME/CAPACITY *(V/C)* RATIO:		0.485
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.385**
LEVEL OF SERVICE (LOS):		**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	CHARLES E. YOUNG DRIVE SOUTH	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
9	East-West Street:	CHARLES E. YOUNG DRIVE WEST	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**
	Left-Through		0	
	Through	0	0	0
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	41	0	41
	Left-Through		0	
	Through	0	0	41
	Through-Right		0	
	Right	50	1	**50**
	Left-Through-Right		1	
	Left-Right			
EASTBOUND	Left	22	0	22
	Left-Through		1	
	Through	314	1	**168**
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	0	0	**0**
	Left-Through		0	
	Through	113	1	71
	Through-Right		1	
	Right	28	0	28
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	50
	East-West:	168
	SUM:	218
VOLUME/CAPACITY *(V/C)* RATIO:		0.153
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.076**
LEVEL OF SERVICE (LOS):		**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	CHARLES E. YOUNG DRIVE SOUTH	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
9	East-West Street:	CHARLES E. YOUNG DRIVE WEST	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**
	Left-Through		0	
	Through	0	0	0
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	59	0	59
	Left-Through		0	
	Through	0	0	59
	Through-Right		0	
	Right	252	1	**252**
	Left-Through-Right		1	
	Left-Right			
EASTBOUND	Left	17	0	**17**
	Left-Through		1	
	Through	208	1	121
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	0	0	0
	Left-Through		0	
	Through	366	1	**198**
	Through-Right		1	
	Right	30	0	30
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	252
	East-West:	215
	SUM:	467
VOLUME/CAPACITY *(V/C)* RATIO:		0.328
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.228
LEVEL OF SERVICE (LOS):		A

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	LE CONTE AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
10	East-West Street:	GAYLEY AVENUE	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	10	1	10
	Left-Through		0	
	Through	745	1	**427**
	Through-Right		1	
	Right	109	0	109
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	89	1	**89**
	Left-Through		0	
	Through	406	1	210
	Through-Right		1	
	Right	14	0	14
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	18	1	**18**
	Left-Through		0	
	Through	71	0	75
	Through-Right		1	
	Right	4	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	107	1	107
	Left-Through		0	
	Through	47	0	**201**
	Through-Right		1	
	Right	154	0	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	516
	East-West:	219
	SUM:	735
VOLUME/CAPACITY *(V/C)* RATIO:		0.490
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.390**
LEVEL OF SERVICE (LOS):		**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	LE CONTE AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
10	East-West Street:	GAYLEY AVENUE	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	53	1	**53**
	Left-Through		0	
	Through	411	1	281
	Through-Right		1	
	Right	150	0	150
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	115	1	115
	Left-Through		0	
	Through	952	1	**490**
	Through-Right		1	
	Right	28	0	28
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	25	1	**25**
	Left-Through		0	
	Through	93	0	98
	Through-Right		1	
	Right	5	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	178	1	178
	Left-Through		0	
	Through	152	0	**292**
	Through-Right		1	
	Right	140	0	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	543
	East-West:	317
	SUM:	860
VOLUME/CAPACITY *(V/C)* RATIO:		0.573
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.473**
LEVEL OF SERVICE (LOS):		**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WEYBURN AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
11	East-West Street:	GAYLEY AVENUE	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	35	1	35
	Left-Through		0	
	Through	742	1	**403**
	Through-Right		1	
	Right	64	0	64
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	25	1	**25**
	Left-Through		0	
	Through	506	1	314
	Through-Right		1	
	Right	121	0	121
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	214	0	**214**
	Left-Through		1	
	Through	106	0	150
	Through-Right		1	
	Right	44	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	31	1	31
	Left-Through		0	
	Through	55	0	**111**
	Through-Right		1	
	Right	56	0	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	428
	East-West:	325
	SUM:	753
VOLUME/CAPACITY *(V/C)* RATIO:		0.502
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.402**
LEVEL OF SERVICE (LOS):		**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WEYBURN AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
11	East-West Street:	GAYLEY AVENUE	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	64	1	**64**
	Left-Through		0	
	Through	540	1	344
	Through-Right		1	
	Right	147	0	147
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	96	1	96
	Left-Through		0	
	Through	918	1	**650**
	Through-Right		1	
	Right	382	0	382
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	95	0	**95**
	Left-Through		1	
	Through	100	0	138
	Through-Right		1	
	Right	38	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	109	1	109
	Left-Through		0	
	Through	180	0	**321**
	Through-Right		1	
	Right	141	0	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	714
	East-West:	416
	SUM:	1130
VOLUME/CAPACITY *(V/C)* RATIO:		0.753
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.653**
LEVEL OF SERVICE (LOS):		**B**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WILSHIRE BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
12	East-West Street:	GAYLEY AVENUE/MIDVALE AVENUE	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		3
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1031

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	84	1	**84**
	Left-Through		0	
	Through	237	2	119
	Through-Right		0	
	Right	43	1	24
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	79	1	79
	Left-Through		0	
	Through	114	1	**114**
	Through-Right		0	
	Right	323	2	0
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	497	2	273
	Left-Through		0	
	Through	2732	3	**911**
	Through-Right		0	
	Right	175	1	133
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	38	1	**38**
	Left-Through		0	
	Through	1933	3	644
	Through-Right		0	
	Right	124	1	85
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	198
	East-West:	949
	SUM:	1147
VOLUME/CAPACITY *(V/C)* RATIO:		1.113
V/C LESS ATSAC/ATCS ADJUSTMENT:		**1.013**
LEVEL OF SERVICE (LOS):		**F**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WILSHIRE BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
12	East-West Street:	GAYLEY AVENUE/MIDVALE AVENUE	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		3
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1031

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	120	1	**120**
	Left-Through		0	
	Through	163	2	82
	Through-Right		0	
	Right	39	1	34
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	132	1	132
	Left-Through		0	
	Through	215	1	**215**
	Through-Right		0	
	Right	536	2	140
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	282	2	155
	Left-Through		0	
	Through	2084	3	**695**
	Through-Right		0	
	Right	70	1	10
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	11	1	**11**
	Left-Through		0	
	Through	1460	3	487
	Through-Right		0	
	Right	87	1	21
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	335
	East-West:	706
	SUM:	1041
VOLUME/CAPACITY *(V/C)* RATIO:		1.010
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.910
LEVEL OF SERVICE (LOS):		E

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	SUNSET BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
13	East-West Street:	WESTWOOD PLAZA	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		0
	EB-- 3	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1069

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	60	2	**33**
	Left-Through		0	
	Through	0	0	0
	Through-Right		0	
	Right	27	1	0
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	0	0	0
	Left-Through		0	
	Through	0	0	**0**
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	0	0	0
	Left-Through		0	
	Through	1376	2	**688**
	Through-Right		0	
	Right	406	1	373
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	231	1	**231**
	Left-Through		0	
	Through	1126	2	563
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	33
	East-West:	919
	SUM:	952
VOLUME/CAPACITY *(V/C)* RATIO:		0.891
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.791**
LEVEL OF SERVICE (LOS):		**C**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	SUNSET BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
13	East-West Street:	WESTWOOD PLAZA	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		0
	EB-- 3	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1069

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	116	2	**64**
	Left-Through		0	
	Through	0	0	0
	Through-Right		0	
	Right	160	1	34
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	0	0	0
	Left-Through		0	
	Through	0	0	**0**
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	0	0	**0**
	Left-Through		0	
	Through	848	2	424
	Through-Right		0	
	Right	152	1	88
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	126	1	126
	Left-Through		0	
	Through	1145	2	**573**
	Through-Right		0	
	Right	0	0	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	64
	East-West:	573
	SUM:	637
VOLUME/CAPACITY *(V/C)* RATIO:		0.596
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.496**
LEVEL OF SERVICE (LOS):		**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	LE CONTE AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
14	East-West Street:	WESTWOOD PLAZA/WESTWOOD BLVD.	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		2
	EB-- 2	WB--		2
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				955

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	50	1	50
	Left-Through		0	
	Through	582	2	**291**
	Through-Right		0	
	Right	127	1	44
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	40	1	**40**
	Left-Through		0	
	Through	198	2	99
	Through-Right		0	
	Right	57	1	57
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	67	1	**67**
	Left-Through		0	
	Through	198	0	231
	Through-Right		1	
	Right	33	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	83	1	83
	Left-Through		0	
	Through	222	0	**338**
	Through-Right		1	
	Right	116	0	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	331
	East-West:	405
	SUM:	736
VOLUME/CAPACITY *(V/C)* RATIO:		0.771
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.671**
LEVEL OF SERVICE (LOS):		**B**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Worksheet
(Circular 212 Method)

I/S #:	North-South Street:	LE CONTE AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
14	East-West Street:	WESTWOOD PLAZA/WESTWOOD BLVD.	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		2
	EB-- 2	WB--		2
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				955

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	71	1	**71**
	Left-Through		0	
	Through	333	2	167
	Through-Right		0	
	Right	150	1	24
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	77	1	77
	Left-Through		0	
	Through	458	2	**229**
	Through-Right		0	
	Right	111	1	111
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	52	1	**52**
	Left-Through		0	
	Through	186	0	269
	Through-Right		1	
	Right	83	0	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	126	1	126
	Left-Through		0	
	Through	296	0	**361**
	Through-Right		1	
	Right	65	0	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	300
	East-West:	413
	SUM:	713
VOLUME/CAPACITY *(V/C)* RATIO:		0.747
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.647**
LEVEL OF SERVICE (LOS):		**B**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WEYBURN AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
15	East-West Street:	WESTWOOD BOULEVARD	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1125

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	65	1	65
	Left-Through		0	
	Through	628	1	**344**
	Through-Right		1	
	Right	60	0	60
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	22	0	**22**
	Left-Through		1	
	Through	383	1	236
	Through-Right		0	
	Right	30	1	30
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	35	0	**35**
	Left-Through		1	
	Through	76	0	111
	Through-Right		0	
	Right	35	1	3
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	54	0	54
	Left-Through		0	
	Through	82	0	**164**
	Through-Right		0	
	Right	28	0	0
	Left-Through-Right		1	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	366
	East-West:	199
	SUM:	565
VOLUME/CAPACITY *(V/C)* RATIO:		0.502
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.402**
LEVEL OF SERVICE (LOS):		**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WEYBURN AVENUE	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
15	East-West Street:	WESTWOOD BOULEVARD	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1125

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	112	1	**112**
	Left-Through		0	
	Through	457	1	271
	Through-Right		1	
	Right	85	0	85
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	21	0	0
	Left-Through		0	
	Through	598	2	**299**
	Through-Right		0	
	Right	63	1	63
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	37	0	**37**
	Left-Through		1	
	Through	88	0	125
	Through-Right		0	
	Right	71	1	15
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	96	0	96
	Left-Through		0	
	Through	181	0	**325**
	Through-Right		0	
	Right	48	0	0
	Left-Through-Right		1	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	411
	East-West:	362
	SUM:	773
VOLUME/CAPACITY *(V/C)* RATIO:		0.687
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.587**
LEVEL OF SERVICE (LOS):		**A**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WILSHIRE BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
16	East-West Street:	WESTWOOD BOULEVARD	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		3
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1031

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	124	1	124
	Left-Through		0	
	Through	616	2	**236**
	Through-Right		1	
	Right	91	0	91
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	70	1	**70**
	Left-Through		0	
	Through	325	2	114
	Through-Right		1	
	Right	130	1	0
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	312	2	172
	Left-Through		0	
	Through	2300	3	**767**
	Through-Right		0	
	Right	177	1	115
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	122	2	**67**
	Left-Through		0	
	Through	1725	3	575
	Through-Right		0	
	Right	63	1	28
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	306
	East-West:	834
	SUM:	1140
VOLUME/CAPACITY *(V/C)* RATIO:		1.106
V/C LESS ATSAC/ATCS ADJUSTMENT:		**1.006**
LEVEL OF SERVICE (LOS):		**F**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WILSHIRE BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
16	East-West Street:	WESTWOOD BOULEVARD	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		3
	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				1031

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	183	1	**183**
	Left-Through		0	
	Through	472	2	209
	Through-Right		1	
	Right	154	0	154
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	124	1	124
	Left-Through		0	
	Through	587	2	**205**
	Through-Right		1	
	Right	231	1	0
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	215	2	118
	Left-Through		0	
	Through	1880	3	**627**
	Through-Right		0	
	Right	202	1	111
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	75	2	**41**
	Left-Through		0	
	Through	1083	3	361
	Through-Right		0	
	Right	40	1	0
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	388
	East-West:	668
	SUM:	1056
VOLUME/CAPACITY *(V/C)* RATIO:		1.024
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.924
LEVEL OF SERVICE (LOS):		E

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WILSHIRE BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
17	East-West Street:	BEVERLY GLEN BOULEVARD	Projection Year:		Peak Hour:	AM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 3	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	218	1	**218**
	Left-Through		0	
	Through	346	1	223
	Through-Right		1	
	Right	99	0	99
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	81	1	81
	Left-Through		0	
	Through	609	1	**350**
	Through-Right		1	
	Right	91	0	91
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	96	1	**96**
	Left-Through		0	
	Through	1831	3	610
	Through-Right		0	
	Right	218	1	0
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	82	1	82
	Left-Through		0	
	Through	1753	2	**597**
	Through-Right		1	
	Right	38	0	38
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	568
	East-West:	693
	SUM:	1261
VOLUME/CAPACITY *(V/C)* RATIO:		0.917
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.817**
LEVEL OF SERVICE (LOS):		**D**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Level of Service Workheet
(Circular 212 Method)

I/S #:	North-South Street:	WILSHIRE BOULEVARD	Year of Count:	2017	Ambient Growth: (%):	0	Conducted by:	RS	Date:	7/11/2017
17	East-West Street:	BEVERLY GLEN BOULEVARD	Projection Year:		Peak Hour:	PM	Reviewed by:		Project:	UCLA LRDP HOUSING

No. of Phases				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0
	EB-- 3	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2
Override Capacity				0

	MOVEMENT	EXISTING CONDITION Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	201	1	201
	Left-Through		0	
	Through	635	1	**366**
	Through-Right		1	
	Right	96	0	96
	Left-Through-Right		0	
	Left-Right			
SOUTHBOUND	Left	117	1	**117**
	Left-Through		0	
	Through	485	1	271
	Through-Right		1	
	Right	57	0	57
	Left-Through-Right		0	
	Left-Right			
EASTBOUND	Left	104	1	104
	Left-Through		0	
	Through	1826	3	**609**
	Through-Right		0	
	Right	230	1	29
	Left-Through-Right		0	
	Left-Right			
WESTBOUND	Left	125	1	**125**
	Left-Through		0	
	Through	1630	2	558
	Through-Right		1	
	Right	43	0	43
	Left-Through-Right		0	
	Left-Right			

CRITICAL VOLUMES	*North-South:*	483
	East-West:	734
	SUM:	1217
VOLUME/CAPACITY *(V/C)* RATIO:		0.885
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.785**
LEVEL OF SERVICE (LOS):		**C**

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in *v/c* due to project:	N/A	Δ*v/c* after mitigation:	N/A
Significant impacted?	NO	Fully mitigated?	N/A

Appendix I

Water Supply Assessment

UCLA LONG-RANGE DEVELOPMENT PLAN AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

WATER SUPPLY ASSESSMENT

August 2017

Prepared for

University of California, Los Angeles

Prepared by:
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Project No. 3UCL002808

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ABBREVIATIONS/ACRONYMS

AB	Assembly Bill
AC	Air Conditioner
AF	Acre-feet
AFY	Acre-feet per year
BDCP	Bay Delta Conservation Program
BOR	U.S. Bureau of Reclamation
CEQA	California Environmental Quality Act
CRA	Colorado River Aqueduct
CVP	Central Valley Project
DCTWRP	Donald C Tillman Water Reclamation Plant
DCR	Delivery Capability Report
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
FY	Fiscal Year
GBUAPCD	Great Basin Unified Air Pollution Control District
GPCD	Gallon per capita per day
gpd	Gallons per day
gpm	Gallons per minute
GSA	Groundwater Sustainability Agency
gsf	Gross square feet
GSP	Groundwater Sustainability Plan
GWR	Groundwater Replenishment
IRP	Integrated Resources Planning
IRWM	Integrated Regional Water Management
KREC	Kinross Recreation Center
LAA	Los Angeles Aqueducts
LADWP	Los Angeles Department of Water and Power
LRDP	Long Range Development Plan
Metropolitan	Metropolitan Water District of Southern California
MWELO	Model Water Efficient Landscape Ordinance
NEPA	National Environmental Policy Act
NOP	Notice of Preparation
NPR	Non-potable reuse
QSA	Quantification Settlement Agreement
RTP	Regional Transportation Plan
RWAG	Recycled Water Advisory Group
RWMP	Recycled Water Master Planning
RY	Runoff Year
SB	Senate Bill
SCAG	Southern California Association of Governments
sf, sq. ft.	Square feet
SFB	San Fernando Basin
SGM	Sustainable Groundwater Management
SGMA	Sustainable Groundwater Management Act

SWP	State Water Project
SWRCB	State Water Resources Control Board
TAF	Thousand Acre Feet
UCLA	University of California, Los Angeles
UNEX	University Extension
ULARA	Upper Los Angeles River Area
ULF	Ultra Low Flush
USFWS	United States Fish and Wildlife Service
UWMP	Urban Water Management Plan
VOC	Volatile organic compound
WRD	Water Replenishment District
WSA	Water Supply Assessment
WSAP	Water Supply Allocation Plan
WSDM	Water Surplus and Drought Management
WUE	Water Use Efficiency

EXECUTIVE SUMMARY

This Water Supply Assessment (WSA) analyzes the sufficiency of water supply to provide for the proposed development of up to 6,900 beds at five on-campus sites at the University of California, Los Angeles (UCLA, University, or campus) and the development of the remaining 174,615 gross square feet (gsf) of development allocation from the 2002 Long Range Development Plan (LRDP); hereinafter referred to as the Proposed Project and Remaining LRDP Allocation, respectively. The Proposed Project will address the current and projected future unmet demand for housing on the UCLA campus by adding an additional 1,500,000 gsf of development allocation at five housing developments pursuant to the proposed LRDP Amendment. The Remaining LRDP Allocation of approximately 174,615 gsf is the remaining development allocation on campus between the 8 campus zones (UCLA 2009a).

Senate Bill (SB) 610 mandates that a city or county approving certain projects subject to CEQA identify any public water system that may supply water for the project, and request those public water systems to prepare a specified WSA. The University is governed by The Regents of the University of California, and not the City of Los Angeles or the County of Los Angeles. As such, the University is not mandated to have the Los Angeles Department of Water and Power (LADWP), the public water system that will supply water for the Proposed Project and Remaining LRDP Allocation, prepare a WSA. However, the University has had this WSA prepared in accordance with the requirements of SB 610 to demonstrate due diligence in assessing water supply sufficiency for the Proposed Project and Remaining LRDP Allocation.

E.1 Project Characteristics and Water Demands

The proposed LRDP Amendment to add 1,500,000 gsf of development allocation on campus would accommodate new student housing to be constructed at five sites on the main campus; the locations of these five sites are described as follows:

- *Lot 15*. This site is located in the Northwest zone generally west of De Neve Drive, south of the existing Hitch Suites, and north of the existing Saxon Suites.
- *Warren Hall*. This site is located in the Southwest zone at 900 Weyburn Place North, west of Weyburn Place and north of Weyburn Avenue.
- *University Extension (UNEX)*. This site is located in the Bridge zone at 10995 Le Conte Avenue, in the northwest quadrant of the Le Conte Avenue/Gayley Avenue intersection and east of Levering Avenue.
- *Bradley*. This site is located in the Northwest zone and consists of the undeveloped sloped area adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive, south of the Bradley International Hall.
- *Drake Stadium*. This site is located in the Central zone at Drake Stadium, located south of Sunset Boulevard and east of Charles E. Young Drive West. The proposed housing structure would be developed in the area over and surrounding the existing concourse.

It is estimated that the Lot 15, Warren Hall, and UNEX housing sites would be developed first in order to maximize the use of limited land resources, and to develop the proposed housing in a timely manner. It is estimated that these three sites would be available for occupancy between

2021 and 2022. It is estimated that development at the Bradley and Drake Stadium housing sites would be completed by 2025.

To be conservative, in addition to the Proposed Project this WSA also assumes completion of the remaining 174,615 gsf of development allocation from the Existing LRDP, the Remaining LRDP Allocation to address overall impacts of proposed campus development on the water supplier:

- 54,615 gsf in the Central Zone
- 110,000 gsf in the Core Zone
- 10,000 gsf in the Southwest Zone

It is estimated that this development would also be completed by 2025. It should be noted that the implementation of development anticipated by the Remaining LRDP Allocation is not part of the proposed Project and the physical impacts associated with implementation of development using the Remaining LRDP Allocation were evaluated in the *UCLA 2008 Northwest Housing Infill Project and Long Range Development Plan Amendment Final Environmental Impact Report* (March 2009 LRDP Amendment Final EIR) (State Clearinghouse [SCH] No. 2008051121), which was certified by the University of California Board of Regents (The Regents) in March 2009. Any future projects implementing the Remaining LRDP Allocation would also be subject to project-specific evaluation pursuant to the California Environmental Quality Act (CEQA).

Water demands were estimated for each of the five LRDP housing sites as shown in Table E.1 based on respective bed counts and estimated cooling water usage. Metered usage from calendar year 2016 for the existing Warren Hall and UNEX buildings that will be demolished and would have been reflected in the existing demands in the LADWP 2015 UWMP were deducted to reflect the net new demand for the five housing sites. This net new demand is 408,560 gpd or 458 AFY (not including water loss).

Water demands were also estimated for the Remaining LRDP Allocation (174,615 gsf) which would occur in three campus zones, as shown in Table E.2. Based on respective building area and estimated cooling water usage, the net new water demand of 22,974 gpd (26 AFY) is estimated for the remaining LRDP development allocations (not including water loss).

E.2 LADWP Water Demands

Water demands in Southern California are largely influenced by dry-weather conditions that typically result in water conservation to reduce water demands. Since 1988, Los Angeles has utilized ordinances as a tool to reduce water waste, beginning with the adoption of its first version of a plumbing retrofit ordinance.

Since the previous 2010 UWMP update, southern California's urban water demand has been largely shaped by efforts to comply with the Water Conservation Act of 2009 (SBx7-7). This law requires all California retail urban water suppliers serving more than 3,000 acre-feet per year (AFY) or 3,000 service connections to achieve a 20 percent water demand reduction (from a historical baseline) by 2020. Meeting this target is critical to ensure LADWP's eligibility to receive future state water grants and loans. As part of SBx7-7, water agencies needed to achieve an interim target of 10 percent water demand reduction by 2015.

Table E.1
Estimated Proposed Project Water Demand

Proposed Housing Sites	Project Statistics		Project Water Demand (gpd)			Existing Water Demand[(c)] (gpd)	Net New Water Demand (gpd)
	Building sq. ft.	Dorm Beds	Inside[(a)]	Cooling[(b)]	Total		
Lot 15	353,000	1,800	90,000	14,523	104,523	0	104,523
Warren Hall	650,000	2,350	117,500	26,743	144,243	963	143,280
UNEX	350,000	1,350	67,500	14,400	81,900	6,037	75,863
Bradley	122,000	600	30,000	5,019	35,019	0	35,019
Drake	240,000	800	40,000	9,874	49,874	0	49,874
Total	1,715,000	6,900	345,000	70,560	415,560	7,000	408,560

(a) Inside water demand at 50 gallons per day (gpd) per bed based sewer flow monitoring for Northwest Campus Area (Sanitary Sewer Study, RBF Consulting, June 2008)

(b) Cooling water demand estimated based on 1 ton AC unit per 400 sf and 4 gallons per minute (gpm) of water use per 100 tons then adjusted (divided) by a peak factor of 3.5 to obtain average annual demand based on information provided by Glumac, the Mechanical, Engineering, and Plumbing (MEP) engineer for the proposed housing projects.

(c) Based on 2016 meter data

Table E.2
Estimated Remaining LRDP Allocation Water Demand

LRDP Zone	Building sq. ft.	Project Water Demand (gpd)		
		Inside[(a)]	Cooling[(b)]	Total
Central	54,615	4,970	2,247	7,217
Core	110,000	10,010	4,526	14,536
Southwest	10,000	810	411	1,221
Total	174,615	15,790	7,184	22,974

(a) Inside water demand estimated at 91 gpd/ksf (Central and Core Zones) and 81 gpd/ksf (Southwest Zone) based sewer flow monitoring for Northwest Campus Area (Sanitary Sewer Study, RBF Consulting, June 2008)

(b) Cooling water demand estimated based on 1 ton AC unit per 400 sf and 4 gallons per minute (gpm) of water use per 100 tons then adjusted (divided) by a peak factor of 3.5 to obtain average annual demand

California endured one of the most severe droughts in the State's history between 2012 and 2016. The drought emergency officially ended in April 2017 per Governor Jerry Brown's Executive Order B-40-17. In response to the drought, Governor Brown issued Executive Order B-29-15 in April 2015, requiring a collective reduction in statewide urban water use of 25 percent by February 2016, with each water agency in the State including LADWP given a specific reduction target by the California Department of Water Resources (DWR). In response to this and other factors, Los Angeles released its first ever Sustainable City "pLAn" that focuses on sustainability, with special focus on the environment, the economy, and equity. The pLAn incorporates water savings goals as follows:

- By 2017, reduce per capita potable water use by 20 percent
- By 2025, reduce per capita potable water use by 22.5 percent
- By 2035, reduce per capita potable water use by 25 percent

The pLAn extends the purchased imported potable water use reduction goal to 2025 and sets an additional goal of increasing local water sources to 50 percent by 2035. Expansion of recycled water use to offset potable demands has been recognized as one method that will help achieve these goals. Concurrently, the pLAn also establishes specific goals for recycled water use including expanding recycled water recycled water production, treatment, and distribution and to incorporate indirect potable reuse and direct potable reuse.

Through water conservation measures, LADWP's water use in FY 2015 of 114 gallons per capita per day (GPCD) was significantly less than its SBx7-7 targets of 148 GPCD for 2015 (target achieved) and 142 GPCD for 2020 (target on-track to be achieved). The City was also able to meet its reduction target per Executive Order B-29-15.

In their 2015 UWMP, LADWP developed a water demand forecast through the year 2040 with passive conservation including codes, ordinances, and conservation phases for each of the major categories of demand. To achieve the more stringent pLAn water use targets, additional water conservation can come from increasing active conservation led by LADWP, as well as additional passive conservation.

It is conservatively assumed that Proposed Project and Remaining LRDP Allocation demands were not included in LADWP's 2015 UWMP projections as the demand projections in the UWMP were based on the 2012 Southern California Association of Government Regional Transportation Plan/Sustainable Communities Strategy (SCAG RTP/SCS) estimates for population and employment. Phased Proposed Project demands and LADWP projected water demands through the planning period, 2020 through 2040, under normal-year hydrologic conditions, are shown in Table E.3. All demands including those for the Proposed Project include an estimated 6.0 percent water loss (1.06 times the values in Table E.1 and E.2), consistent with the 2015 UWMP. In 2040, the Proposed Project Demand is 0.08 percent of LADWP's total water service area demand.

E.3 LADWP Water Supply

The Los Angeles Aqueducts (LAA), local groundwater, purchased imported water from the Metropolitan Water District of Southern California (Metropolitan), and recycled water are the primary sources of water supplies for the City. Since 2006, the total required water supply to meet water demand shows an overall declining trend due to reductions in total demand.

However, sufficient water supplies were available in each of the years to meet the total demand. In 2009, the total water demand decreased due to mandatory conservation imposed in the City following drier hydrologic conditions coinciding with an economic recession. In 2013, drought conditions returned and have triggered State and City mandatory conservation measures.

Table E.3
LADWP Water Demand Forecast with Project Demands

Demand/Supply Component	Projected Demand/Supply (AFY)				
	2020	2025	2030	2035	2040
Projected Demands[a]					
Remaining LRDP Allocation[a]	-	28	28	28	28
Proposed Project[a]	-	494	494	494	494
Remaining LADWP WSA[a]	611,800	644,700	652,900	661,800	675,700
Total LADWP WSA Demand[a]	611,800	645,222	653,422	662,322	676,222

(a) Including 6.0 percent water loss consistent with the assumption in the 2015 UWMP; WSA is water service area

LADWP sources of supply for the 5-year period FY 2011 through FY 2015 consisted of Metropolitan imported water (57 percent); LAA (29 percent); groundwater (12 percent); and recycled water (2 percent).

Snowmelt runoff from the Eastern Sierra Nevada Mountains is collected and conveyed to the City via LAA. LAA supplies come primarily from snowmelt and secondarily from groundwater pumping, and can fluctuate yearly due to the varying hydrologic conditions. In recent years, LAA supplies have been less than the historical average because of environmental restoration obligations in Mono and Inyo Counties.

A key resource the City has relied upon as a major component of its local water supply portfolio is local groundwater. Over the last five years, local groundwater has provided approximately 12 percent of the total water supply for Los Angeles, and since 1970 has provided up to 23 percent of total supply during extended dry periods when imported supplies become less reliable. The Upper Los Angeles River Area (ULARA) watershed is the principal groundwater resource where the City produces local groundwater from the San Fernando and Sylmar Basins. The City also produces local groundwater from the Central Basin and is entitled to produce water from the neighboring West Coast Basin. All of these basins are adjudicated by judicial decrees of the Superior Court of the State of California.

LADWP groundwater production is projected to increase by approximately 70 percent by 2040; not including up to 15,000 AFY of pumping anticipated to occur in the San Fernando Basin via stormwater recharge, and 30,000 AFY of additional groundwater recharge anticipated to occur through recharge with highly treated water from the Donald C. Tillman Water Reclamation Plant (planned for 2024 and beyond).

Metropolitan imports a portion of its water supplies from Northern California through the State Water Project's (SWP) California Aqueduct, and from the Colorado River through

Metropolitan's own Colorado River Aqueduct (CRA). LADWP will continue to rely on Metropolitan to meet its current and future water needs, but will focus on expanding local sources of supply in order to be less dependent on imported water.

The record dry and hot conditions of 2014 significantly impacted the water resources of both the State and Metropolitan. DWR limited supplies from the SWP to only five percent of the contractors' SWP Table A amounts[1] in 2014. This allocation was the lowest ever in the SWP's history. Metropolitan was able to meet demands in 2014 by relying heavily on storage reserves to make up for the historically low SWP allocation.

On April 14, 2015, to support Governor Jerry Brown's Executive Order B-29-15, and to reduce withdrawals from Metropolitan's dry-year storage reserves, Metropolitan implemented its Water Supply Allocation Plan (WSAP) at a Level 3 Regional Shortage Level (15 percent reduction), effective July 1, 2015, though June 30, 2016. On May 10, 2016, citing the improved water supply conditions and reduced water use due to conservation, Metropolitan voted to end the WSAP allocation and rescind WSAP Regional Shortage Level 3 for allocation year 2016/17. Metropolitan, however, called for member agencies to continue with conservation efforts to safeguard against future dry years.

Purchases from Metropolitan have averaged 57 percent of the City's water supply over the five-year period from FY 2011 to FY 2015. The Sustainable City pLAn calls for a reduction in purchased imported water by 50 percent by 2025 from the FY 2014 level by reducing water demand through increased conservation; increased local supply development; and increased recycled water production and use.

The City has a goal to have a 75,400 AFY supply of recycled water by 2040 to off-set imported water use. This will increase recycled water use in the City more than six-fold as a percentage of supply, from the current 2 percent to 13 percent by 2040. LADWP's 2015 UWMP projects stormwater capture to increase in the City by approximately 35,000 AFY by the year 2035 through the implementation of centralized stormwater capture projects. A minimum of 15,000 AFY of increased groundwater pumping in the San Fernando Basin is projected from stormwater recharge by the year 2040.

E.4 Reliability of Water Supplies

With its current water supplies, planned future water conservation, and planned future water supplies, LADWP will be able to reliably provide water to its customers through the planning period ending in FY 2040. LADWP's reliability projections account for water quality issues with source waters and the impacts of climate change on both supplies and demands.

LADWP's 2015 UWMP projects the City's locally developed supplies including groundwater, groundwater replenishment, stormwater capture, and water conservation will increase from 14 percent (as an average for FY 2011-2015) to 47 percent in FY 2040 during normal-year conditions; and to 49 percent in FY 2040 during dry-year conditions. These local supplies are not influenced by variability in hydrology, and will become the cornerstone of LADWP's future

[1] Table A is a schedule of water supplies available to each of the SWP Contractors. Metropolitan's Table A Amount is 1,912,000 AFY out of a total contracted SWP capacity of 4.2 million AFY, or a proportional amount of that total based on DWR's percentage of SWP deliveries set in any given year (i.e. if the SWP delivery percentage is set at 50%, Metropolitan could receive up to 956,000 AF (50% of 1,912,000) of Table A water during that year).

water supplies. As a result, the City's combined imported supplies are projected to decrease significantly from 86 percent (FY 2011-2015) to 51 percent in FY 2040 for dry years; and to 53 percent in FY 2040 under normal conditions.

The City's imported supplies are impacted by hydrology. The LAA has limited storage capacity, which means it is very susceptible to variations in hydrology, while Metropolitan (with much greater storage capacity) can provide a water supply to the City that is less susceptible to hydrologic conditions. By FY 2040, LAA deliveries are projected to be 7 percent in dry years, and 42 percent in normal years. Metropolitan will make up the remaining 44 percent in dry years, and provide 11 percent of the City's water supply needs in normal years.

To determine the overall service area reliability, LADWP defined three hydrologic conditions: average year (50-year average hydrology from FY 1962 to 2011 (normal year)); single-dry year (such as a repeat of the FY 2015 drought); and multi-dry year (such as a repeat of FY 2013 to FY 2015). These defined conditions are used to determine the corresponding level of water supply.

The corresponding demand under each hydrologic condition is also determined. Weather patterns and water demands were further studied to determine single-dry year demand and multi-dry year demands. The single-dry and multiple-dry year demands are estimated to be 5.0 percent higher than the forecasted normal year demand including the demands of the Proposed Project and Remaining LRDP Allocation.

The normal year, single-dry year, and multiple-dry year water supply reliability summaries are shown in Table E.4, Table E.5, and Table E.6 respectively. The projected supply portfolio under multiple-dry year conditions is almost identical to that under single-dry year conditions. The only difference being slight changes in the LAA water supply. In their 2015 UWMP, a major goal of LADWP is to reduce reliance on imported water, first from Metropolitan and then from the LAA system. In their normal year, single-dry year and multiple-dry year tables, they balanced demand with supply by adding up all other demands and showing Metropolitan as the last supply to balance demands. They then show Potential Supplies of 40,000 AFY in water transfers, which could potentially further reduce Metropolitan imports. For this WSA, the additional demand of the Proposed Project and Remaining LRDP Allocation is assumed to come from corresponding additional supplies from Metropolitan. And since Metropolitan has demonstrated in its 2015 UWMP that they have a surplus in all scenarios, LADWP is projected to have sufficient water supply to meet all demands including the demands from the Proposed Project and Remaining LRDP Allocation for normal year, single-dry year, and multiple-dry year conditions through the planning period.

E.5 Conclusion

The information included in this WSA identifies a sufficient and reliable water supply for LADWP, now and into the future, including a sufficient water supply for the Proposed Project and Remaining LRDP Allocation. These supplies are also sufficient to provide for overall City-wide growth at the rate projected in LADWP's 2015 UWMP.

Table E.4
Normal Year LADWP Supply Reliability

Demand/Supply Component	Projected Demand/Supply (AFY)				
	2020	2025	2030	2035	2040
Projected Demands[a]					
Remaining LRDP Allocation[a]	-	28	28	28	28
Proposed Project[a]	-	494	494	494	494
Remaining LADWP WSA[a]	611,800	644,700	652,900	661,800	675,700
Total LADWP WSA Demand[a]	611,800	645,222	653,422	662,322	676,222
pLAn Water Demand Target	485,600	533,431	540,531	551,534	566,037
Existing / Planned Supplies					
Conservation[b]	125,800	110,900	111,600	109,100	108,100
Los Angeles Aqueducts[c]	275,700	293,400	291,000	288,600	286,200
Net Groundwater[d]	112,670	110,670	106,670	114,670	114,070
Recycled Water					
Irrigation & Industrial Use	19,800	29,000	39,000	42,200	45,400
GW Replenishment	-	30,000	30,000	30,000	30,000
Stormwater Capture					
SW Reuse (Harvesting]	400	800	1,200	1,600	2,000
SW Recharge	2,000	4,000	8,000	15,000	15,000
Subtotal	536,370	578,770	587,470	601,170	600,770
Metropolitan Purchases w/ Existing/Planned Supplies	75,430	66,452	65,952	61,152	75,452
Total Supplies	611,800	645,222	653,422	662,322	676,222
Potential Supplies					
Water Transfers[e]	40,000	40,000	40,000	40,000	40,000

(a) With existing passive conservation; WSA is water service area
(b) Additional active and passive conservation required to meet water use reduction goals in Sustainable City pLAn
(c) Assumes 20,000 AFY for dust mitigation on Owens Lake after FY 2024. Supply estimated to decrease 0.165%/year due to climate change
(d) Excludes stormwater recharge & groundwater replenishment that contribute to increased pumping
(e) Potential water transfer occurs in dry years with stored water acquired in average and wet years

Table E.5
Single-Dry Year LADWP Supply Reliability

Demand/Supply Component	Projected Demand/Supply (AFY)				
	2020	2025	2030	2035	2040
Projected Demands[a]					
Remaining LRDP Allocation[a]	-	29	29	29	29
Proposed Project[a]	-	519	519	519	519
Remaining LADWP WSA[a]	642,400	676,900	685,500	694,900	709,500
Total LADWP WSA Demand[a]	642,400	677,448	686,048	695,448	710,048
pLAn Water Demand Target	485,600	533,431	540,531	551,534	566,037
Existing / Planned Supplies					
Conservation[b]	156,700	143,700	145,100	143,500	143,500
Los Angeles Aqueducts[c]	32,200	51,900	51,400	51,000	50,600
Net Groundwater[d]	112,670	110,670	106,670	114,670	114,070
Recycled Water					
Irrigation & Industrial Use	19,800	29,000	39,000	42,200	45,400
GW Replenishment	-	30,000	30,000	30,000	30,000
Stormwater Capture					
SW Reuse (Harvesting]	100	200	300	300	400
SW Recharge	2,000	4,000	8,000	15,000	15,000
Subtotal	323,470	369,470	380,470	396,670	398,970
Metropolitan Purchases w/ Existing/Planned Supplies	318,930	307,978	305,578	298,778	311,078
Total Supplies	642,400	677,448	686,048	695,448	710,048
Potential Supplies					
Water Transfers[e]	40,000	40,000	40,000	40,000	40,000

(a) With existing passive conservation; WSA is water service area
(b) Additional active and passive conservation required to meet water use reduction goals in Sustainable City pLAn
(c) Assumes 20,000 AFY for dust mitigation on Owens Lake after FY 2024. Supply estimated to decrease 0.165%/year due to climate change
(d) Excludes stormwater recharge and groundwater replenishment supplies that contribute to increased pumping
(e) Potential water transfer occurs in dry years with stored water acquired in average and wet years

Table E.6
Multiple-Dry Year LADWP Supply Reliability

Demand/Supply Component	Projected Demand/Supply (AFY)				
	2020	2025	2030	2035	2040
Projected Demands[a]					
Remaining LRDP Allocation[a]	-	29	29	29	29
Proposed Project[a]	-	519	519	519	519
Remaining LADWP WSA[a]	642,400	676,900	685,500	694,900	709,500
Total LADWP WSA Demand[a]	642,400	677,448	686,048	695,448	710,048
pLAn Water Demand Target	485,600	533,431	540,531	551,534	566,037
Existing / Planned Supplies					
Conservation[b]	156,700	143,700	145,100	143,500	143,500
Los Angeles Aqueducts[c]	33,500	53,200	52,800	52,400	51,900
Net Groundwater*[d]	112,670	110,670	106,670	114,670	114,070
Recycled Water					
Irrigation & Industrial Use	19,800	29,000	39,000	42,200	45,400
GW Replenishment	-	30,000	30,000	30,000	30,000
Stormwater Capture					
SW Reuse (Harvesting]	100	200	300	300	400
SW Recharge	2,000	4,000	8,000	15,000	15,000
Subtotal	324,770	370,770	381,870	398,070	400,270
Metropolitan Purchases w/ Existing/Planned Supplies	317,630	306,649	304,149	297,349	309,749
Total Supplies	642,400	677,448	686,048	695,448	710,048
Potential Supplies					
Water Transfers[e]	40,000	40,000	40,000	40,000	40,000

(a) With existing passive conservation; WSA is water service area
(b) Additional active and passive conservation required to meet water use reduction goals in Sustainable City pLAn
(c) Assumes 20,000 AFY for dust mitigation on Owens Lake after FY 2024. Supply estimated to decrease 0.165%/year due to climate change
(d) Excludes stormwater recharge and groundwater replenishment supplies that contribute to increased pumping
(e) Potential water transfer occurs in dry years with stored water acquired in average and wet years

1 INTRODUCTION

A Long Range Development Plan (LRDP) is defined by statute (Public Resources Code, Section 21080.09[2]) as a "physical development and land use plan to meet the academic and institutional objectives for a particular campus or medical center of public higher education." It defines the campus goals, program needs and physical development guidelines, while retaining flexibility to respond to unanticipated circumstances. The University of California, Los Angeles (UCLA, university or campus) LRDP adopted by The Regents of the University of California in 2002, as amended in March 2009 and subsequently thereafter[2], is the operative LRDP for the campus (hereinafter referred to as the "Existing LRDP"). The Existing LRDP allocated approximately 1.87 million gross square feet (gsf) of remaining development allocation on campus between the 8 campus zones (UCLA 2009a). Since its adoption, approval of various projects has reduced the original 1.87 million gsf allocation to a remaining approximately 174,615 gsf.

To address the current and projected future unmet demand for housing, the campus has identified a potential to develop up to 6,900 beds by adding 1,500,000 gsf of development allocation to the LRDP, at five on-campus sites. From this potential capacity, the campus will pursue development on three of the five sites that could be available for occupancy as soon as 2021 to partially accommodate the increased enrollment; to increase the housing guarantee for entering first-year students from 3 to 4 years; to increase the guarantee for transfer students from 1 year to 2 years; to reduce the triple occupancy percentage closer to the 60–70 percent target identified in the Student Housing Master Plan (SHMP) 2016–2026; and to meet existing unmet graduate housing demand.

Because this additional student housing was not contemplated under the Existing LRDP, UCLA proposes to amend the Existing LRDP to allocate an additional 1,500,000 gsf of new development in various campus zones necessary to accommodate the proposed residential development. The proposed LRDP Amendment would retain the remaining 174,615 gsf of development allocation. The proposed addition of 1,500,000 gsf of development allocation at five housing developments pursuant to the proposed LRDP Amendment; and the development of the remaining 174,615 gsf of development allocation from the Existing LRDP is hereinafter referred to as the Proposed Project and Remaining LRDP Allocation, respectively. As previously identified, implementation of the Remaining LRDP Allocation is not part of the proposed Project and is only being addressed in this WSA to provide a conservative assessment of the water demand for future development on campus.

This report assesses the sufficiency of water supply to provide for the Proposed Project and Remaining LRDP Allocation now and into the future. Senate Bill 610, which became law on October 9, 2001, mandates that a city or county approving certain projects subject to CEQA (i) identify any public water system that may supply water for the project, and (ii) request those public water systems to prepare a specified Water Supply Assessment (WSA). The WSA is to be included in any environmental document prepared for the project. The assessment may include an evaluation of any information included in that environmental document. A determination shall

[2] Since approval of the March 2009 LRDP Amendment, there have been four amendments to the LRDP: transfer of 52,000 square feet (sf) from the Core zone to the Central zone to accommodate the Pauley Pavilion Renovation and Expansion Project; transfer of 80,000 sf from the Southwest zone and 175,000 sf from the Bridge zone to accommodate the Meyer and Renee Luskin Conference and Guest Center Project; transfer of 130,000 sf from the Northwest zone to the Central zone; and transfer of 30,000 sf from the Southwest zone to the Bridge zone to accommodate the Margan Apartments Redevelopment Project.

be made whether the projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

The University is governed by The Regents of the University of California, and not the City of Los Angeles or the County of Los Angeles. As such, the University is not mandated to have LADWP, the public water system that will supply water for the Proposed Project and Remaining LRDP Allocation, prepare a WSA. However, the University has had this WSA prepared in accordance with the requirements of SB 610 to demonstrate due diligence in assessing water supply sufficiency for the Proposed Project and Remaining LRDP Allocation.

2 LEGISLATION

2.1 SB 610 – Costa – Water Supply Planning

SB 610 was chaptered into law on October 9, 2001. It mandates that a city or county approving certain projects subject to CEQA (i) identify any public water system that may supply water for the project, and (ii) request those public water systems to prepare a specified Water Supply Assessment (WSA). ***As stated in Section 1, a WSA for the Proposed Project and Remaining LRDP Allocation is not mandated because the University is governed by The Regents of the University of California and not the City or County. However, the University prepared this WSA in accordance with the requirements of SB 610 to demonstrate due diligence in assessing water supply sufficiency for the Proposed Project and Remaining LRDP Allocation.*** The assessment is to include the following:

1. A discussion of whether the public water system's total projected water supplies available during normal, single-dry, and multiple-dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing.
2. The identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts.
3. A description of the quantities of water received in prior years by the public water system under the existing water supply entitlements, water rights, or water service contracts.
4. A demonstration of water supply entitlements, water rights, or water service contracts by the following means:
    a. Written contracts or other proof of entitlement to an identified water supply.
    b. Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.
    c. Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.
    d. Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.
5. The identification of other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system.
6. If groundwater is included for the supply for a proposed project, the following additional information is required:
    a. Review of any information contained in the Urban Water Management Plan (UWMP) relevant to the identified water supply for the proposed project.

b. Description of any groundwater basin(s) from which the proposed project will be supplied. Adjudicated basins must have a copy of the court order or decree adopted and a description of the amount of groundwater the public water system has the legal right to pump. For non-adjudicated basins, information on whether the DWR has identified the basin as over-drafted or has projected that the basin will become over-drafted if present management conditions continue, in the most current bulletin of DWR that characterizes the condition of the basin, and a detailed description of the efforts being undertaken in the basin to eliminate the long-term overdraft condition.

c. Description and analysis of the amount and location of groundwater pumped by the public water system for the past five years from any groundwater basin which the proposed project will be supplied. Analysis should be based on information that is reasonably available, including, but not limited to, historic use records.

d. Description and analysis of the amount and location of groundwater projected to be pumped by the public water system from any groundwater basin by which the proposed project will be supplied. Analysis should be based on information that is reasonably available, including, but not limited to, historic use records.

e. Analysis of the sufficiency of the groundwater from the basin(s) from which the proposed project will be supplied.

The WSA shall be included in any environmental document prepared for the project. The assessment may include an evaluation of any information included in that environmental document. A determination shall be made whether the projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

Additionally, SB 610 requires new information to be included as part of an UWMP if groundwater is identified as a source of water available to the supplier. Information must include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 prohibits eligibility for funds from specified bond acts until the plan is submitted to the State.

2.2 SB 1262 – Sustainable Groundwater Management Act

State Senate Bill 1262 adopted in September 2016 amends Section 66473.7 of the Government Code to require WSAs to address certain elements regarding groundwater sustainability if the project relies in whole or in part on groundwater as a source of supply.

For this WSA, the portions of SB 1262 that are applicable are as follows:

For a basin that has not been adjudicated that is a basin designated as high- or medium-priority pursuant to Section 10722.4, information regarding the following should be provided:

- Whether the department (DWR) has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924
- If a groundwater sustainability agency has adopted a groundwater sustainability plan, or has an approved alternative; a copy of that alternative or plan.

3 PROPOSED PROJECT

3.1 Proposed Project Location

Located in the community of Westwood in the City of Los Angeles, the 419-acre UCLA campus is approximately 12 miles northwest of downtown Los Angeles and 6 miles from the Pacific Ocean. The main campus is generally bound by Le Conte Avenue to the south, Gayley Avenue and Veteran Avenue to the west, Sunset Boulevard to the north, and Hilgard Avenue to the east. The Southwest zone, also part of the main campus, is located immediately north of Wilshire Boulevard generally between Gayley Avenue and Veteran Avenue. Figure 3-1 depicts the regional location and local vicinity of the main campus.

The Proposed Project consists of new housing constructed at five existing sites on the main campus; the locations of these five sites are described as follows:

- *Lot 15*. This site is located in the Northwest zone generally west of De Neve Drive, south of the existing Hitch Suites, and north of the existing Saxon Suites.
- *Warren Hall*. This site is located in the Southwest zone at 900 Weyburn Place North, west of Weyburn Place and north of Weyburn Avenue.
- *University Extension (UNEX)*. This site is located in the Bridge zone at 10995 Le Conte Avenue, in the northwest quadrant of the Le Conte Avenue/Gayley Avenue intersection and east of Levering Avenue.
- *Bradley*. This site is located in the Northwest zone and consists of the undeveloped sloped area adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive, south of the Bradley International Hall.
- *Drake Stadium*. This site is located in the Central zone at Drake Stadium, located south of Sunset Boulevard and east of Charles E. Young Drive West. The proposed housing structure would be developed in the area over and surrounding the existing concourse.

The Remaining LRDP Allocation consists of new construction of 174,615 gsf of development allocation from the Existing LRDP in the following campus locations:

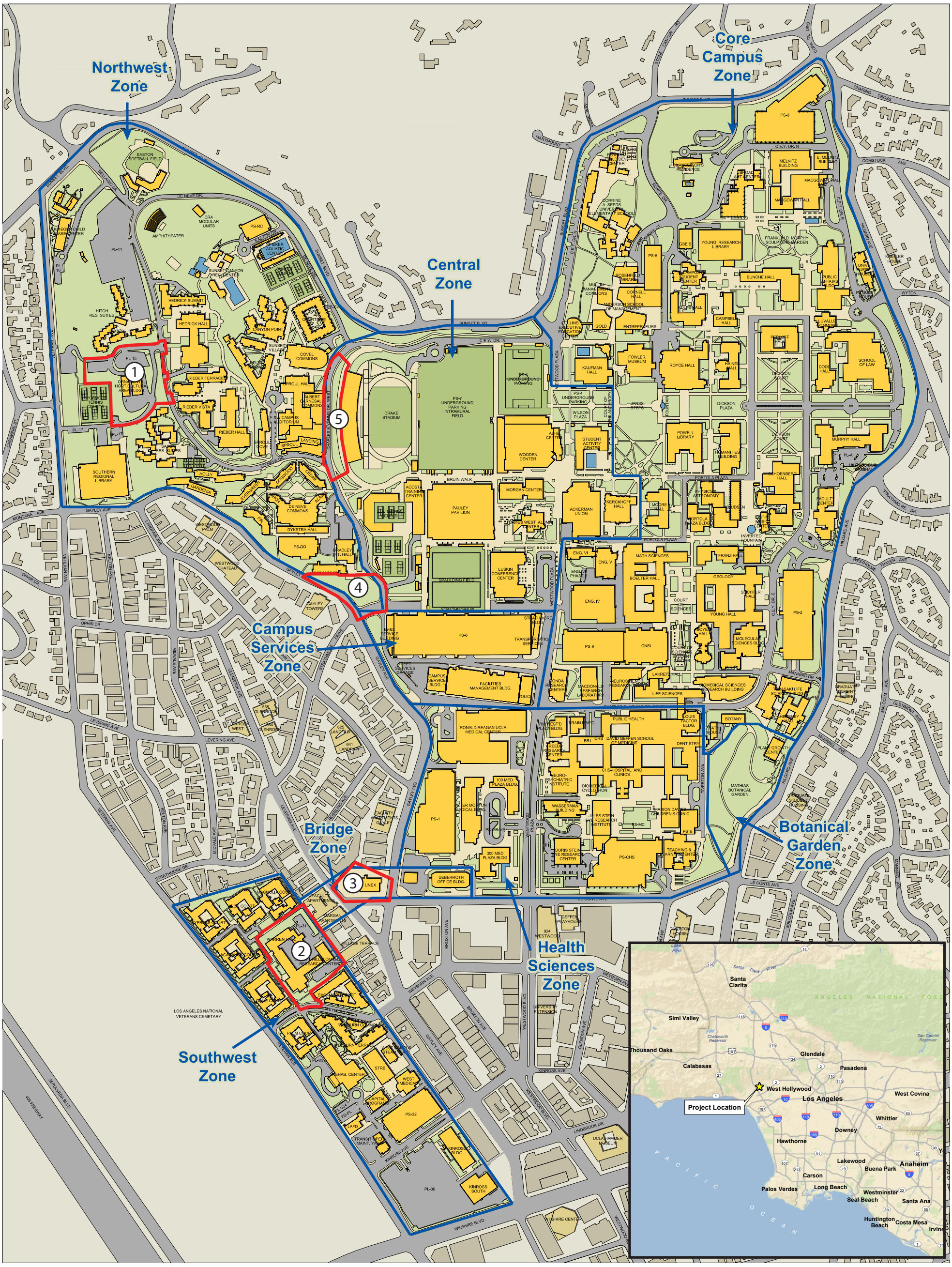
- 54,615 gsf in the Central Zone
- 110,000 gsf in the Core Zone
- 10,000 gsf in the Southwest Zone

3.2 Proposed Project Characteristics

The characteristics of the five proposed housing sites are summarized in Table 3.1 and are described below.

3.2.1 Lot 15 and Bradley Housing Sites (Northwest Zone)

The proposed Lot 15 and Bradley housing sites are located in the Northwest zone, which constitutes approximately 90.5 acres of the 419.0-acre UCLA campus, and primarily includes residential and recreational uses.



Source: UCLA 2014

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Regional and Local Vicinity Map

Figure 3.1

UCLA 2017 Housing and LRDP Amendment Project

(05/19/2017 MMD) R:\Projects\UCL\J0028.08\Graphics\EIR\Drake\ex_RegLoc_Vicinity.pdf

The Lot 15 site encompasses approximately 3.1 acres and is located generally west of De Neve Drive, south of the existing Hitch Suites, and north of the existing Saxon Suites. The proposed housing site generally consists of two roughly level pads (referred to herein as the upper pad and lower pad) separated by an approximate 15-foot-high south-facing slope. The upper pad is currently used for surface parking (Lot 15), a portable office structure, and storage containers. Two existing Ornamental Horticultural Area buildings (existing 12,000 gsf) will be demolished to accommodate the new housing proposed at the Lot 15 site that will consist of approximately 353,000 gsf and 1,800 beds (net increase of approximately 341,000 gsf). The lower pad is currently occupied by a greenhouse and facilities used by the UCLA Housing and Facilities Management departments for storage of parts, material, and plants (Ornamental Horticultural Area buildings). Vegetation in the vicinity of the Lot 15 site is a mix of native vegetation and ornamental plantings.

Table 3.1
Characteristics of Housing Sites

Proposed Housing Sites	Project Statistics	
	Building square feet	Bed Count
Lot 15	353,000[a]	1,800
Warren Hall	650,000[b]	2,350
UNEX	350,000[c]	1,350
Bradley	122,000	600
Drake	240,000	800
Total	1,715,000[d]	6,900

a) Net increase of 341,000 gsf with demolition of the 2 existing Ornamental Horticulture buildings at the Lot 15 site (12,000 gsf)
b) Net increase of 540,500 gsf with demolition of the existing buildings at the Warren Hall site (109,500 gsf)
c) Net increase of 256,500 gsf with demolition of the existing UNEX building (93,500 gsf)
d) Net increase of 1,500,000 gsf with demolition of existing buildings at Lot 15, Warren Hall, and UNEX (215,000 gsf total)

The proposed Bradley housing site encompasses approximately 1.1 acres and consists of the undeveloped grassy knoll adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive, south of the Bradley International Hall. Existing vegetation on and around the Bradley site consists primarily of turf grass, as well as native and ornamental trees and ornamental shrubs. The proposed new housing at the site consists of approximately 122,000 gsf and 600 beds. As the housing will be constructed on an undeveloped grassy knoll, no demolition of existing structures will be required to accommodate the new housing.

3.2.2 Warren Hall Housing Site (Southwest Zone)

The proposed Warren Hall housing site encompasses approximately 3.9 acres and is located in the 35.5-acre Southwest zone. The Southwest zone is occupied by a variety of uses including, but not limited to, surface and structured parking, graduate student housing, medical research and clinical functions, administrative functions, scientific research, transit facilities, a steam plant,

the relocated Kinross Recreation Center (KREC) facility, and Los Angeles Fire Station No. 37. The UCLA Geffen Academy, which will hold its first classes in the fall 2017, is also located in the Southwest zone, adjacent to and east of Parking Lot 36 (in what was previously referred to as "the Kinross Building").

The proposed housing site at 900 Weyburn Place North is currently developed with Warren Hall, which houses various office uses and research facilities, and the Hillblom Islet Research Center. Warren Hall, built in 1961, is a 2-level, approximate 102,205-gsf building with a partial basement that is U-shaped in plan. The Hillblom Islet Research Center was added to the southeastern portion of the site in 2004 (approximately 7,200 gsf). On-site surface parking lots serve these uses. These buildings (109,500 gsf total) would be demolished to accommodate the proposed housing consisting of approximately 650,000 gsf and 2,350 beds (net increase of approximately 540,500 gsf).

3.2.3 University Extension (UNEX) Housing Site (Bridge Zone)

This proposed UNEX housing site is located in the Bridge zone at 10995–10997 Le Conte Avenue, in the northwest quadrant of the Le Conte Avenue/Gayley Avenue intersection and east of Levering Avenue. The Bridge zone, which contains approximately five acres of the campus, forms a physical land connection between the main campus zones and the Southwest zone. In addition to the UNEX Building, this zone contains the Ueberroth Building, which houses various UCLA offices; Margan student apartments; and Levering Faculty apartment building. It should be noted that the Margan apartment building is scheduled to be demolished in the fall 2017. This site will be redeveloped with new undergraduate student housing and is expected to be completed in 2019.

This proposed UNEX housing site encompasses approximately one acre and is currently developed with the 8-level (including partial ground level) UNEX building constructed in 1971 (approximately 93,500 gsf); a small parking lot; rear-yard retaining wall; and a service driveway. The building is seismically deficient and would be demolished to accommodate the proposed housing development. Existing vegetation on and around the UNEX site consists of ornamental trees and shrubs. The UNEX building will be demolished to accommodate the new housing proposed at the site that will consist of approximately 350,000 gsf and 1,350 beds (net increase of approximately 256,500 gsf).

3.2.4 Drake Stadium Housing Site (Central Zone)

The proposed Drake Stadium housing site is located in the Central zone at Drake Stadium (340 Charles E. Young Drive North), south of Sunset Boulevard and east of Charles E. Young Drive West. The approximate 61.5-acre Central zone contains most of the campus recreational and athletic facilities and playing fields; it also includes student activity centers and underground parking. Drake Stadium is adjacent to and west of the Intramural Field and underground Parking Structure 7.

The proposed housing site encompasses approximately 1.3 acres and is located in the vicinity of Drake Stadium, which is where UCLA's soccer and track and field teams hold events. Existing vegetation on and around the Drake Stadium site consists of both native and ornamental trees as well as ornamental shrubs. The proposed housing would be developed in the area over and surrounding the existing concourse, which is located on the west side of the stadium. The

proposed new housing at the site consists of approximately 240,000 gsf and 800 beds. No demolition of existing structures will be required to accommodate the new housing.

3.2.5 Proposed Project and Remaining LRDP Allocation Phasing

It is estimated that the Lot 15, Warren Hall, and UNEX housing sites would be developed first in order to maximize the use of limited land resources and to develop the proposed housing in a timely manner. It is estimated that these three sites would be available for occupancy between 2021 and 2022. It is estimated that development at the Bradley and Drake Stadium housing sites would be completed by 2025.

It is estimated that development of the 174,615 gsf of development referred to as the Remaining LRDP Allocation would also be completed by 2025.

3.3 Project Water Demand

Water demands were estimated for the Proposed Project as shown in Table 3.2 based on respective bed counts and estimated cooling water usage. Inside water demand was estimated at 50 gallons per day (gpd) per bed based on sewer flow monitoring conducted for the Northwest Campus Area (Sanitary Sewer Study, RBF Consulting, June 2008). Cooling water demand was estimated based on providing one ton of an AC unit per 400 sf of building area and 4 gallons per minute (gpm) of water use per 100 tons; then adjusted (divided) by a peak factor of 3.5 to obtain average annual demand based on information provided by Glumac, the MEP engineer for the proposed housing projects.

Although the Sanitary Sewer Study, which is being used as the basis for estimating the water demand for the proposed project, was prepared in 2007, it was used to support the March 2009 LRDP Amendment Final EIR and is the best data available for on-campus flows. It is recognized these demand factors are conservative in that the on campus uses included in the flow monitoring were constructed prior to new building codes and adoption of the UC Sustainable Practices Policy and UCLA's own Sustainability Program. These codes, policies, and programs include various water conservation requirements. Additionally, the March 2009 LRDP Amendment Final EIR mitigation measures (MMs) and campus programs, practices and procedures (PPs) require:

PP 4.14-2(a) New facilities and renovations (except for patient care facilities in the Medical Center) shall be equipped with low-flow showers, toilets, and urinals.

PP 4.14-2(b) Measures to reduce landscaping irrigation needs shall be used, such as automatic timing systems to apply irrigation water during times of the day when evaporation rates are low, installing drip irrigation systems, using mulch for landscaping, subscribing to the California Irrigation Management Information System Network for current information on weather and evaporation rates, and incorporating drought-resistant plants as appropriate.

PP 4.14-2(c) The campus shall promptly detect and repair leaks in water and irrigation pipes.

PP 4.14-2(d) The campus shall minimize the use of water to clean sidewalks, walkways, driveways and parking areas.

PP 4.14-2(e) The campus shall avoid serving water at UCLA food service facilities except upon request.

PP 4.14-2(g) The campus shall educate the campus community on the importance of water conservation measures.

The existing water demand for the Warren Hall and UNEX housing sites was metered at 963 gpd and 6,037 gpd, respectively in 2016. There is minimal existing water demand at the other three housing sites. As shown in Table 3.2, a "net new" water demand of 408,560 gpd (458 AFY) is estimated for the five proposed housing sites (not including water loss) after subtracting the existing water demand from the Proposed Project demand.

Table 3.2
Estimated Proposed Project Water Demand

Proposed Housing Sites	Project Statistics		Project Water Demand (gpd)			Existing Water Demand[(c)] (gpd)	Net New Water Demand (gpd)
	Building sq. ft.	Dorm Beds	Inside[(a)]	Cooling[(b)]	Total		
Lot 15	353,000	1,800	90,000	14,523	104,523	0	104,523
Warren Hall	650,000	2,350	117,500	26,743	144,243	963	143,280
UNEX	350,000	1,350	67,500	14,400	81,900	6,037	75,863
Bradley	122,000	600	30,000	5,019	35,019	0	35,019
Drake	240,000	800	40,000	9,874	49,874	0	49,874
Total	1,715,000	6,900	345,000	70,560	415,560	7,000	408,560

(a) Inside water demand at 50 gallons per day (gpd) per bed based sewer flow monitoring for Northwest Campus Area (Sanitary Sewer Study, RBF Consulting, June 2008)

(b) Cooling water demand estimated based on 1 ton AC unit per 400 sf and 4 gallons per minute (gpm) of water use per 100 tons then adjusted (divided) by a peak factor of 3.5 to obtain average annual demand based on information provided by Glumac, the MEP engineer for the proposed housing projects.

(c) Based on 2016 meter data

Water demands were also estimated for each of the three development sites of the Remaining LRDP Allocation as shown in Table 3.3 based on respective building area and estimated cooling water usage. Inside water demand was estimated at 81 gpd/thousand square feet (ksf) (Southwest Zone) and 91 gpd/ksf (Central and Core Zones) based on sewer flow monitoring conducted for the Northwest Campus Area (Sanitary Sewer Study, RBF Consulting, June 2008). Cooling water demand was estimated based the same aforementioned criteria. As shown in Table 3.3, a net new water demand of 22,974 gpd (26 AFY) is estimated for the three development sites of the Remaining LRDP Allocation (not including water loss).

The Proposed Project and Remaining LRDP Allocation water demands presented in Tables 3.2 and 3.3 are considered to be conservative and no additional demand is included for landscape irrigation for the following reasons:

1. Irrigated landscape exists on most of the sites and will be removed and replaced with new landscaping using lower water use (drought tolerant) plantings and more efficient irrigation systems consistent with UC Sustainable Practices Policy, UCLA's own sustainable practices, and March 2009 LRDP Amendment Final EIR MMS to reduce landscape irrigation (refer to PP 4.14-2(b) above).

2. The Proposed Project and Remaining LRDP Allocation will have more efficient fixtures, such as showerheads and low-flow toilets and urinals (refer to PP 4.14-2(a) above), than those monitored in the 2008 Sewer Study used to generate the gpd/bed and gpd/ksf factors.

Table 3.3
Estimated Remaining LRDP Allocation Water Demand

LRDP Zone	Building sq. ft.	Project Water Demand (gpd)			Existing Water Demand (gpd)	Net New Water Demand (gpd)
		Inside[(a)]	Cooling[(b)]	Total		
Central	54,616	4,970	2,247	7,217	0	7,217
Core	110,000	10,010	4,526	14,536	0	14,536
Southwest	10,000	810	411	1,221	0	1,221
Total	174,616	15,790	7,184	22,974	0	22,974

(a) Inside water demand estimated at 91 gpd/ksf (Central and Core Zones) and 81 gpd/ksf (Southwest Zone) based sewer flow monitoring for Northwest Campus Area (Sanitary Sewer Study, RBF Consulting)

(b) Cooling water demand estimated based on 1 ton AC unit per 400 sf and 4 gallons per minute (gpm) of water use per 100 tons then adjusted (divided) by a peak factor of 3.5 to obtain average annual demand

4 LADWP WATER SYSTEM

4.1 LADWP Water Service Area

The LADWP water service area is slightly larger than the legal boundary of the City of Los Angeles. In addition to the City of Los Angeles, LADWP also provides water service to portions of West Hollywood, Culver City, Universal City, and small portions of the County of Los Angeles.

The City of Los Angeles is comprised of approximately 300,117 acres. Residential development constitutes approximately 53 percent of the total land use within the City. Within the residential land use category, single family residential is the largest at approximately 122,000 acres or 41 percent of the total land use within the City. Multi-family residential is approximately 35,000 acres or 12 percent of the total land use within the City. After residential use, open space/parks is the second largest land use within the City at approximately 12 percent. Commercial, public facilities and manufacturing land uses combined account for approximately 19 percent of the total.

The population within LADWP's service area increased from 2.97 million in 1980 to 3.99 million in 2015, representing an average annual growth rate of approximately 1.0 percent. The total number of housing units increased from 1.10 million in 1980 to 1.39 million in 2015, representing an average annual growth rate of 0.8 percent. During this time, average household size increased from 2.7 persons in 1980 to 2.77 persons in 2015.

Demographic projections were provided for the LADWP service area by Metropolitan who received projected demographic data from SCAG. SCAG allocated its 2012 RTP/SCS demographic data into water service areas for Metropolitan's member agencies for use in preparation of demand projections in their respective 2015 UWMPs.

LADWP's service area population is expected to continue to grow over the next 25 years at a rate of 0.5 percent annually. While this is substantially less than the historical 1.0 percent annual growth rate from 1980 to 2010, it will still lead to approximately 493,200 new residents over the next 25 years. According to SCAG's 2012 RTP/SCS, total housing is expected to grow at a slightly higher rate than population over the next 25 years at 0.8 percent annual growth versus 0.5 percent annual growth for population, and it is anticipated that household size will decline over the projection period.

The 2012 RTP/SCS projects that by 2040 the average household size will decrease to 2.54 persons per household. Throughout the projection period, multi-family housing units are expected to increase at three times the rate of single family housing units (1.32 percent annual growth vs. 0.41 percent annual growth).

Employment is expected to increase by 0.4 percent annually throughout the projection period. This growth is primarily driven by the current and long-term opportunities available from the economic base within the five-county metropolitan region of Southern California. The economic base is wide-ranging and includes professional and business services, wholesale and retail trade, manufacturing, public administration, financial service industries, information, transportation, warehousing, utilities, construction, education and health services, and leisure and hospitality.

Over the 25-year forecast period, industrial growth is expected to slightly increase reaching a peak in 2020 and then gradually declining to 2040. Over the projection period industrial growth is expected to increase by less than 0.1 percent annually. Commercial employment is expected to increase by about 0.4 percent annually.

Demographic projections are primary drivers of water demand forecasting. For their 2015 UWMP, LADWP used the demographic projections from the 2012 RTP for its water demand forecast, as these projections were the latest available.

4.2 LADWP Water Demands

Water demands in Southern California are largely influenced by dry-weather conditions that typically result in water conservation to reduce water demands. Since 1988, Los Angeles has utilized ordinances as a tool to reduce water waste, beginning with the adoption of its first version of a plumbing retrofit ordinance. In 1998 the ordinance was amended, requiring the installation of Ultra Low Flush (ULF) toilets and water-saving showerheads in single family and multi-family residences prior to the close of escrow.

Los Angeles adopted their Water Efficiency Requirements Ordinance in 2009, which establishes water efficiency requirements for new developments and renovations of existing buildings by requiring installation of high efficiency plumbing fixtures in all residential and commercial buildings. In an effort to lead by example, LADWP has been retrofitting all of its own facilities with high efficiency plumbing fixtures prior to the effective date of the ordinance. As of early January 2016, LADWP was 80 percent complete in upgrading its 600 buildings to high efficiency faucets, toilets, urinals, showers, flexible hose connectors, angle valves, as well as correcting leaks and removing existing water damage.

In May 1996, the City's Landscape Ordinance (No. 170978) became effective with an overarching goal to improve the efficient use of outdoor water. This ordinance was amended in 2009 to comply with the Water Conservation in Landscaping Act of 2006 and the State Model Water Efficient Landscape Ordinance (MWELO). On July 15, 2015, the State MWELO was revised to set higher standards for outdoor water use efficiency, and the City is currently implementing the standards set by this update.

LADWP first adopted an Emergency Water Conservation Plan Ordinance in the early 1990's in response to drought conditions. Subsequently, in response to recent water shortage conditions, LADWP has adopted four amendments to expand prohibited uses, increase penalties for violating the ordinance, add an additional phase, modify water conservation requirements, and add a new violation to deter unreasonable use of water.

Since the previous 2010 UWMP update, southern California's urban water demand has been largely shaped by efforts to comply with the Water Conservation Act of 2009 (SBx7-7). This law requires all California retail urban water suppliers serving more than 3,000 AFY or 3,000 service connections to achieve a 20 percent water demand reduction (from a historical baseline) by 2020. Meeting this target is critical to ensure LADWP's eligibility to receive future state water grants and loans. As part of SBx7-7, water agencies needed to achieve an interim target of 10 percent water demand reduction by 2015.

California endured one of the most severe droughts in the State's history between 2012 and 2016. The drought emergency officially ended in April 2017 per Governor Jerry Brown's

Executive Order B-40-17. In response to the drought, Governor Brown issued Executive Order B-29-15 in April 2015, requiring a collective reduction in statewide urban water use of 25 percent by February 2016, with each water agency in the State including LADWP given a specific reduction target by DWR.

In response, Los Angeles released its first ever Sustainable City "pLAn" that focuses on sustainability, with special focus on the environment, the economy, and equity. The pLAn incorporates water savings goals as follows:

- By 2017, reduce per capita potable water use by 20 percent
- By 2025, reduce per capita potable water use by 22.5 percent
- By 2035, reduce per capita potable water use by 25 percent

The pLAn extends the purchased imported potable water use reduction goal to 2025 and sets an additional goal of increasing local water sources to 50 percent by 2035. Expansion of recycled water use to offset potable demands has been recognized as one method that will help achieve these goals. Concurrently, the pLAn document establishes specific goals for recycled water use including: 1) Expanding recycled water by an additional 6 mgd by 2017 at the Terminal Island Water Reclamation Plant, 2) Converting 85% of public golf courses to recycled water, 3) Developing a strategy to convert the City's lakes to recycled water, and 4) Expanding recycled water production, treatment, and distribution to incorporate indirect potable reuse and direct potable reuse.

Achieving these goals will reduce the City's reliance on imported water while providing a drought-proof resource that is not subject to weather conditions. This aggressive approach includes multiple strategies: investments in state-of-the-art technology; a combination of rebates and incentives promoting installation of water-efficient appliances such as weather-based irrigation controllers; efficient clothes washers, toilets and urinals; expansion and enforcement of prohibited water uses; reductions in outdoor water use; extending education and outreach efforts; and encouraging regional conservation.

Through water conservation measures, LADWP's water use in FY 2015 of 114 GPCD was significantly less than its SBx7-7 targets of 148 GPCD in 2015 (target achieved) and 142 GPCD in 2020 (target on-track to be achieved). The City was also able to meet its reduction target per Executive Order B-29-15.

Comparing FY 2015 to FY 2007, total water use in the City was 31 percent lower; single family water use was 35 percent lower; multi-family water use was 24 percent lower; commercial water use was 16 percent lower; industrial water use was 14 percent lower; and government water use was 13 percent lower. As a result of the sustained water conservation ethic of LADWP's water customers, the City's water usage today is about the same as in the 1970s despite an increase in population of over 1,000,000 additional people.

In their 2015 UWMP, LADWP developed a water demand forecast for each of its major categories of demand, i.e. single family homes, multi-family homes, commercial/government, industrial, and landscaping, through the year 2040. This allowed the City to better understand trends in water use and develop effective conservation programs. The methodology used for the demand forecast is called a modified unit use approach. The following steps were used in this approach:

Step 1. Estimate baseline per unit water use – take each billed category of water demand for a base (or starting) period and divide by associated demographic driver, i.e. number of single family homes or number of industrial employees, etc. This baseline per unit water use includes all water conservation up until this point of time.

Step 2. Modify the estimated baseline per unit water use to account for future changes in the following socioeconomic variables: price of water, personal income, family size, economy, drought conservation effect, and passive water conservation (which accounts for efficiencies in water use from state and local plumbing codes and ordinances).

Step 3. Estimate current passive conservation from current plumbing codes and landscape ordinances, and reduce the modified per unit water use factors by estimated percent savings from passive conservation.

Step 4. Multiply modified per unit water use, reduced by passive conservation, for each category in Step 2 and Step 3 by the associated projected demographic drivers in order to obtain projected water demands by billed category. Note that these per unit water use factors do not include future active or additional passive conservation from new or potential codes and ordinances.

Step 5. Estimate non-revenue water (the difference between total water consumption and billed water use) by applying a non-revenue water use factor, and add non-revenue water to the billed category water demands in Step 4 in order to get a forecast of total water consumption with passive conservation from current codes and ordinances.

Step 6. A final water use adjustment is made by reducing each customer classes' (and non-revenue) total water use by a percentage reflective of the assumed mandatory Conservation Phase in effect. The result is the total post-conservation water use projection for LADWP's service area.

In Step 1 of this methodology, historical water demands for single family, multi-family, commercial/government, and industrial were averaged from 2010 to 2013 to determine the baseline. This period was used because on average: 1) it represented normal weather conditions, 2) it was post economic recession, and 3) it was before mandatory water restrictions were established in response to the California drought. For each of these categories, the average water demand was divided by a demographic driver that could be projected into the future. The result of this calculation is a water demand expressed as a unit water use. The estimated demographics for the period 2010 to 2013 were estimated based on 2010 census numbers and projected 2015 values that were provided by the Metropolitan Water District of Southern California, using the 2012 SCAG RTP/SCS demographic forecast.

Step 2 in the methodology involved modifying these baseline unit water uses to account for changes in the following socioeconomic variables: price of water, personal income, family size, drought conservation effect, and passive water conservation.

In Step 3, the current California and City of Los Angeles plumbing codes and landscape ordinances were used to determine the passive conservation that would occur from 2020 to 2040 assuming 100 percent compliance with codes and ordinances for high-efficiency plumbing fixtures and the new MEWLO for all new construction. The water savings factors were applied to these new homes, relative to existing non-complying homes in order to derive percent savings from passive conservation over time. Step 4 involved reducing the modified per unit water use factors by the passive conservation savings.

For Step 5, non-revenue water, which includes all unmetered water for fire protection, distribution system flushing, and other unaccounted water, was projected to be 6 percent of total billed water consumption through 2040. For LADWP, non-revenue water was calculated at 5.6% in FY 2014 and averaged 5.9% between FY 1991 and 2014.

In Step 6, the total water use for each customer class and non-revenue water are reduced by the conservation savings from the assumed Emergency Water Conservation Plan ordinance phase; the result of these steps is the water demand forecast with passive conservation including codes, ordinances, and conservation phases for each of the major categories of demand as shown in Table 4.1.

Table 4.1
LADWP Water Demand Forecast by Major Demand Categories

FY	Water Demands by Sector (AF)						
	Single Family[(a)]	Multi-Family[(a)]	Commercial/ Government[(a)]	Industrial[(a)]	Non-Revenue[(a)]	Total[(a)]	pLAn Target Use[(b)]
2020	222,958	184,679	148,600	18,869	36,709	611,815	485,600
2025	224,729	206,065	155,994	19,235	38,682	644,706	533,000
2030	226,770	211,454	156,788	18,701	39,173	652,886	540,100
2035	231,776	216,071	156,186	18,104	39,711	661,848	551,100
2040	231,767	225,994	159,554	17,829	40,541	675,685	565,600

(a) Targeted water demands with passive conservation
(b) Targeted water demands set forth in the Sustainable City pLAn

The targeted water demands based on the water use reduction goals established in the Sustainable City pLAn are also shown in Table 4.1 for reference. In the Sustainable City pLAn, per capita water use targets were established for potable water demand. Adding LADWP's planned recycled water supply to the pLAn's potable water demand targets yields an overall target for total water demands. This water demand target is compared to the water demand forecast with passive conservation to identify the additional levels of water conservation needed into the future.

To achieve the more stringent pLAn water use targets, additional water conservation can come from increasing active conservation led by LADWP, as well as additional passive conservation. Passive conservation includes long-term behavioral changes in customer water use and compliance with codes and ordinances that mandate increased efficiency. In LADWP's 2015 UWMP and also in this WSA, normal year, single dry year and multiple-dry year supplies were

compared to targeted demands with passive conservation; and not targeted water demands set forth in the Sustainable City pLAn.

It is assumed Proposed Project and Remaining LRDP Allocation demands were not included in LADWP's 2015 UWMP as the demand projections in the UWMP were based on the 2012 SCAG RTP/SCS estimates and projections. Phased Proposed Project, Remaining LRDP Allocation demands and LADWP projected water demands through the planning period, 2020 through 2040, under normal year hydrologic conditions, are shown in Table 4.2. All demands including those for the Proposed Project and Remaining LRDP Allocation include an estimated 6 percent water loss consistent with the 2015 UWMP. In 2040, the Proposed Project and Remaining LRDP Allocation Demand is 0.08 percent of the total LADWP water service area demand.

Table 4.2
LADWP Water Demand Forecast with Project Demands

Demand/Supply Component	Projected Demand/Supply (AFY)				
	2020	2025	2030	2035	2040
Projected Demands[(a)]					
Remaining LRDP Allocation[(a)]	-	28	28	28	28
Proposed Project[(a)]	-	494	494	494	494
Remaining LADWP WSA[(a)]	611,800	644,700	652,900	661,800	675,700
Total LADWP WSA Demand[(a)]	611,800	645,222	653,422	662,322	676,222

(a) Including 6.0 percent water loss consistent with the assumption in the 2015 UWMP; WSA is water service area

4.3 LADWP Water Supply

The Los Angeles Aqueducts (LAA), local groundwater, purchased imported water from the Metropolitan, and recycled water are the primary sources of water supplies for the City. Table 4.3 shows LADWP water supplies from 2006 to 2015 from these sources. The total required water supply to meet water demand shows an overall declining trend over this time period due to reductions in total demand. However, sufficient water supplies were available in each of the years to meet the total demand. In 2009, the total water demand decreased due to conservation efforts by mandatory conservation imposed in the City following drier hydrologic conditions coinciding with an economic recession. In 2013, drought conditions returned and have triggered State and City mandatory conservation measures. As noted previously, the drought emergency was officially declared over in April 2017 through Governor Brown's Executive Order B-40-17.

4.3.1 Los Angeles Aqueducts

Snowmelt runoff from the Eastern Sierra Nevada Mountains is collected and conveyed to the City via LAA. LAA supplies come primarily from snowmelt and secondarily from groundwater pumping, and can fluctuate yearly due to the varying hydrologic conditions. In recent years, LAA supplies have been less than the historical average because of environmental restoration obligations in Mono and Inyo Counties.

Table 4.3
Historical LADWP Water Supply (AF)

Calendar Year	Los Angeles Aqueducts	Local Groundwater	Metropolitan	Recycled Water	Transfer, Spread, Spills & Storage	Total
2006	380,235	67,299	188,585	3,893	-1,336	641,348
2007	127,392	88,041	439,353	3,595	-57	658,438
2008	148,407	64,604	427,422	7,048	1,664	645,817
2009	137,261	66,998	351,959	7,570	554	563,234
2010	251,126	68,346	205,240	6,900	-938	532,550
2011	357,752	49,915	119,481	7,708	-153	535,009
2012	166,858	59,109	326,122	5,965	1,182	556,872
2013	64,690	66,272	438,534	9,253	-2,404	581,153
2014	62,088	94,280	391,320	11,307	2,080	556,915
2015	26,828	81,618	378,439	9,844	432	496,297

The City holds water rights in the Eastern Sierra Nevada where LAA supplies originate. These supplies originate from both streams and from groundwater. In 1905, the City approved a bond measure for purchase of land and water rights in the Owens River Valley. By 1913, the first LAA began its deliveries of water to the City primarily from surface water diversions from the Owens River and its tributaries. Historically, these supplies were augmented from time to time by groundwater extractions from beneath the lands that the City had purchased in the Owens Valley.

In 1940, the first LAA was extended north to deliver Mono Basin water to the City pursuant to water rights permits and licenses granted by the SWRCB. In 1970, the second LAA was completed increasing total delivery capacity of the LAA system to approximately 561,000 AFY. The second LAA was to be filled by completing the Mono Basin diversions originally authorized in 1940, by a more effective use of water for agricultural purposes on City-owned lands in the Owens Valley and Mono Basin and by increased groundwater pumping from the City's lands in the Owens Valley.

In 1972, Inyo County filed a CEQA lawsuit challenging the City's groundwater pumping program for the Owens Valley. The lawsuit was finally resolved in 1997, with the County of Inyo and the City entering into a long-term water agreement for the management of groundwater in the Owens Valley. That water agreement, entered as a judgment of the Superior Court in the County of Inyo (County of Inyo vs. City of Los Angeles, Superior Court No. 12908) outlines the management of the City's Owens Valley groundwater resources. As a result of this water agreement and subsequent MOU, LADWP has dedicated 37,000 AF of water annually for enhancement and mitigation projects throughout Owens Valley which includes the re-watering of 62 miles of the Lower Owens River. LADWP also provides approximately 80,000 AF of water annually for other uses in the Owens Valley such as irrigation, town water supplies, stockwater, wildlife and recreational purposes.

Further, in December 1989, the Superior Court entered an injunction, ordering LADWP to allow sufficient flow to pass through the Mono Basin diversion facilities to maintain water level in Mono Lake at 6,377 feet above sea level and also to restore streams and protection of fishery in these streams. As a result, the City did not export any water from Mono Basin until 1994, when SWRCB issued Decision 1631. In September 1994, by virtue of the public trust doctrine, the SWRCB issued Decision 1631, an amendment to the license for LADWP exports from Mono Basin which placed conditions on LADWP's water gathering activities from Mono Basin. Under Decision 1631, LADWP's allowable amount of export for a given runoff year (RY, April - March) is dependent on the Mono Lake elevation. For RY 2016-2017, LADWP plans to export approximately 4,500 AF of water from Mono Basin, the same amount as for RY 2015-2016, due to Mono Lake's elevation being projected to remain below 6,380 feet. LADWP has implemented extensive restoration and monitoring programs in Mono Basin to increase the level of Mono Lake and to improve stream conditions, fisheries and waterfowl habitats in Walker, Parker, Rush and Lee Vining Creeks. With reduced diversions from the Mono Basin and favorable hydrologic conditions, Mono Lake's elevation has risen over time. Once the elevation of Mono Basin reaches 6,391 feet above mean sea level, a moderate increase in water exports from the Mono Basin will be permitted pursuant to the Decision 1631.

In July 1998, LADWP and the Great Basin Unified Air Pollution Control District (GBUAPCD) entered into a Memorandum of Agreement to mitigate dust emissions from Owens Lake. Diversion of water from Owens River, first by farmers in the Owens Valley and then by the City beginning in 1913, resulted in the exposed lakebed becoming a major source of windblown dust. LADWP has spent $1.6 billion and used substantial quantities of water since it started diverting water from LAA to mitigate dust emissions at Owens Lake. As of December 31, 2008, LADWP mitigated dust emissions from 29.8 square miles of Owens Lake in accordance with GBUAPCD's 2003 revised State Implementation Plan. As of April 1, 2010, LADWP mitigated an additional 9.2 square miles in accordance with GBUAPCD's 2008 State Implementation Plan. Upon completion of Phase 8 in October 2012, LADWP has mitigated dust emissions from a total of approximately 42 square miles of Owens Lake. Phase 7a was completed by the regulatory compliance deadline of December 31, 2015, and upon its completion, LADWP has mitigated dust emissions on 45 square miles. Phase 7a is a water neutral project.

On November 14, 2014, an historic agreement between LADWP and GBUAPCD was reached which for the first time established an upper limit of 53.4 square miles that LADWP could potentially be ordered to mitigate dust emissions from Owens Lake playa by the GBUAPCD. As part of this historic agreement, LADWP has agreed to mitigate dust emissions for an additional 3.62 square miles of Owens Lake playa. The Phase 9/10 Project is to be completed by December 31, 2017 and is anticipated to result in further water conservation at Owens Lake through increasing use of water efficient and waterless dust mitigation measures. Upon completion of Phase 9/10 Project, LADWP will have mitigated approximately 48.6 square miles of dust emissions in Owens Lake playa. Hence, GBUAPCD's potential future dust mitigation orders to LADWP cannot exceed an additional 4.8 square miles. The agreement allows LADWP to use water efficient and waterless dust mitigation measures, while maintaining existing wildlife habitat on the lakebed. As a result, LADWP expects to save significant amounts of water in coming years with implementation of the Owens Lake Master Project and other water conservation projects.

Average deliveries from the LAA system have been approximately 160,461 AF of water annually from FY 2010/11 to 2014/15. During this period, the record low snowpack for the LAA watershed in the Eastern Sierra Nevada Mountains was recorded on April 1, 2015. The average annual long-term LAA delivery between 2015 and 2040, using the 50-year average hydrology from FY 1961/62 to 2010/11, is expected to be approximately 278,000 AFY and gradually decline to 267,000 AFY due to projected climate change impacts. However, with the anticipated completion of the Owens Lake Master Project by 2024, the projected LAA delivery may increase to 286,000 AFY due to water conserved at Owens Lake which would off-set most of the anticipated long-term losses.

4.3.2 Groundwater

A key resource the City has relied upon as a major component of its water supply portfolio is local groundwater. Over the last five years local groundwater has provided approximately 12 percent of the total water supply for Los Angeles, and since 1970 has provided up to 23 percent of total supply during extended dry periods when imported supplies become less reliable.

Several sources of local groundwater within Los Angeles are accessible to the City. The Upper Los Angeles River Area (ULARA) watershed is the principal groundwater resource where the City produces local groundwater from the San Fernando and Sylmar Basins. The City also produces local groundwater from the Central Basin and is entitled to produce water from the neighboring West Coast Basin.

The Hollywood and Santa Monica Basins are local resources where the City may potentially develop future drinking water supplies in partnership with neighboring municipalities. Combined, these basins can potentially supply the City with more than 110,000 AFY of groundwater. However, various challenges have restricted the City's use of these local resources.

Industrial contamination issues are the principle reason for restricted use of local groundwater pumping by the City. Much of LADWP's pumping capacity has been impaired by contaminants, primarily volatile organic compounds (VOCs). In the San Fernando Basin (SFB), more than 80 of LADWP's 115 water supply wells have been removed from service, or restricted in use. In neighboring Sylmar Basin, contamination has caused two of three LADWP water supply wells to be removed from service. Two of ten LADWP water supply wells in the Central Basin have been impaired, taken off line, and demolished as a result of groundwater contamination issues. Water quality problems associated with hydrocarbon pollutants caused LADWP to discontinue utilizing its West Coast Basin facilities in 1980. Furthermore, declining groundwater levels and overdraft conditions have become additional concerns for Los Angeles basins where decades of expanding urbanization, increasing impervious hardscape, and channelization of stormwater runoff have diverted natural replenishment away from local aquifers. Aging wellfields and distribution system infrastructure has also presented challenges to the development and use of the City's local groundwater resources.

Combined, these challenges have caused the City to renew its focus on sustainable management of its local groundwater basins. Responding to groundwater contamination issues has been a high priority of the City, particularly in the SFB. Recently completed studies have provided analysis of groundwater quality and characterization of the extent of contaminants affecting the City's largest well fields in the basin. Expanded basin remediation systems are under development to remove contamination from the local groundwater basin for the betterment of the environment and to restore the beneficial uses of this important basin. The expanded remediation facilities are

anticipated to be operational by 2021. Efforts in the Sylmar and Central Basins have been focused on rehabilitation of LADWP's well fields. Water supply wells impaired by contamination are being replaced using modern construction standards to restore lost pumping capacity and improve water quality.

LADWP continues to invest in stormwater recharge projects to restore local groundwater basin levels by enhancing and enlarging existing stormwater capture facilities. Investments in advanced treatment systems in SFB to produce purified recycled water for groundwater replenishment and indirect potable reuse. These investments will help augment the City's groundwater supply and ensure basin water levels remain sustainable for many decades into the future. With the recent conclusion of water rights litigation in December 2015, the Superior Court of the State of California has affirmed the City's entitlements to groundwater in the Antelope Valley Groundwater Basin.

Although native groundwater may only be used locally within the basin, the City is entitled to use the Antelope Valley Groundwater Basin as an underground reservoir to store imported supplies for future export to Los Angeles during emergencies or dry periods.

Groundwater Rights

The City owns water rights in the San Fernando, Sylmar, Eagle Rock, Central, and West Coast Basins. All of these basins are adjudicated by judicial decrees of the Superior Court of the State of California. The City's combined water rights in these basins are approximately 109,809 AFY, of which approximately 87,000 AFY are located in the SFB, 500 AFY in the Eagle Rock Basin, and 3,570 AFY in Sylmar Basin. Central Basin water rights were recently increased from 15,000 AFY to 17,236 AFY as a result of three purchase transactions completed during 2014 and 2016. Water rights in the West Coast Basin are 1,503 AFY, which the City may produce from the Central Basin per the Third Amended Central Basin Judgment.

Sustainable Groundwater Management Act (SGMA)

In response to the drought lasting from 2012 through 2016, Governor Jerry Brown and the State Legislature enacted the SGMA which took effect on January 1, 2015. With SGMA, the State focused upon equipping and empowering local agencies with tools needed to manage local groundwater basins in a sustainable manner. Actions necessary to achieve sustainability will vary with each basin, but SGMA generally requires local agencies to form Groundwater Sustainability Agencies (GSAs), develop and implement Groundwater Sustainability Plans (GSPs), and monitor and report status of groundwater conditions within each basin.

By enacting the new law the State seeks to mitigate and prevent the occurrence of adverse effects caused by unreasonable use of groundwater, such as groundwater storage depletion, land subsidence, seawater intrusion, water quality degradation, critical overdraft basin conditions, and surface water depletions.

The State has made funding and technical assistance available to ensure local agencies can implement SGMA successfully. Agencies who fail to comply will risk having their basin(s) being placed on probationary status which authorizes the State to step in and implement SGMA on their behalf. Advancing guidelines for the SGMA, DWR is developing its Strategic Plan for a Sustainable Groundwater Management (SGM) Program. DWR's SGM Program will implement the new and expanded responsibilities identified in SGMA. Some of these expanded responsibilities include: (1) developing regulations to revise groundwater basin boundaries, (2)

adopting regulations for evaluating and implementing GSPs and coordination agreements, (3) identifying basins subject to critical conditions of overdraft, (4) identifying water available for groundwater replenishment, and (5) publishing best management practices for the sustainable management of groundwater.

Throughout the development of SGMA, there was broad public consensus that adjudicated basins are well managed, subject to Court jurisdiction, and should not be the primary focus for SGMA. Therefore, the new law only requires managers of adjudicated basin to file a copy of the adjudication with DWR and the annual reports which document basin conditions. Los Angeles overlies both adjudicated and unadjudicated basins; therefore LADWP will work with its regional partners towards implementing SGMA for the unadjudicated basins that are located within the City's boundaries.

Unadjudicated Basins

The Central and West Los Angeles areas of the City overlie the Hollywood Basin, Santa Monica Basin, and the northerly area of Central Basin located outside of the adjudicated basin boundary. Although the potential for utilizing these basins for groundwater supply may present certain challenges related to water quantity and quality, the call by City leaders to increase use of local resources has prompted a view towards all of the City's groundwater assets including potential supplies from these basins. Therefore, LADWP anticipates developing groundwater resources in a manner that is locally sustainable and in cooperation with regional partners in each basin.

With the passing of the SGMA, cities with overlying land in unadjudicated basins are mandated to sustainably manage their respective basins, particularly those considered by the State to be of medium or high priority. While Hollywood Basin is considered to be a low priority basin, Santa Monica Basin is considered a medium priority basin. Per regulatory guidelines, a Groundwater Sustainability Agency must be established by June 30, 2017, and a GSP must be established by January 31, 2020. This also applies to the unadjudicated northern area of Central Basin, a high priority basin. LADWP is a member agency of the GSA for the Santa Monica Basin, which was formed prior to the deadline. And, together with Golden State Water Company, the Water Replenishment District of Southern California, and the cities of Beverly Hills and Culver City, has submitted an Alternative Groundwater Management Plan to DWR for the unadjudicated portion of the Central Basin to comply with the SGMA.

City Groundwater Production

The City has historically produced groundwater from the San Fernando, Sylmar, and Central groundwater basins. San Fernando and Sylmar Basins are subject to the judgment in the City of San Fernando vs. the City of Los Angeles. Pumping is reported to the court-appointed Upper Los Angeles River Area (ULARA) Watermaster. The Central Basin is also subject to court judgments. Pumping is reported to the Water Replenishment District of California (WRD), the administrative member of the Central Basin Water Rights Panel.

The San Fernando Basin is the largest of four basins within ULARA. The basin consists of 112,000-acres of land and comprises 91.2 percent of ULARA valley fill. The City has accumulated 537,453 AF of stored groundwater in SFB as of October 2013. This is water the City can withdraw from the basin during normal and dry years or in an emergency, in addition to the City's approximately 87,000 AF annual entitlement in the basin. With SFB remediation facilities in operation by FY 2022, groundwater storage credit will be used to maximize pumping

in the future above City's annual entitlement in SFB. The majority of the City's groundwater is extracted from SFB. Sylmar Basin is located in the northern part of ULARA, consists of 5,600 acres, and comprises 4.6 percent of ULARA valley fill. City's current annual entitlement per latest Sylmar Safe Yield is 3,570 AF. Sylmar Basin production will increase to 4,170 AFY from FY 2016 to FY 2039 to utilize groundwater the City has accumulated into storage and then return to the entitlement of 3,570 AFY in FY 2040.

A Court decision on pumping rights in ULARA was implemented in a judgment on January 26, 1979. Further information about ULARA is in the ULARA Watermaster Report. ULARA Watermaster Report and some background information on the judgment are available for review at the office of the ULARA Watermaster or on-line at www.ularawatermaster.com.

City additionally has adjudicated rights to extract groundwater from the Central Basin. Annual entitlement to Central Basin is 17,236 AF. City has accumulated groundwater into storage in Central Basin, and pumping can be temporarily increased until stored water credits have been expended. Judgment is available for review on the WRD website at http://wrdwater.org/.

For the one year period from July 2014 to June 2015, City extracted 80,097 AF and 6,948 AF from the San Fernando and Central Basins, respectively. City plans to continue production from its groundwater basins in the coming years to offset reductions in imported supplies. However, extraction from the basins may be limited by water quality, sustainable pumping practices, and groundwater elevation.

Groundwater produced by City from the San Fernando, Sylmar, and Central Basins for the last available five years are shown on Table 4.4, as well as groundwater pumping projections for average, single-dry, and multi-year dry weather conditions in five-year increments. Table 4.4 excludes 15,000 AFY of anticipated pumping in SFB from stormwater recharge as well as 30,000 AFY of additional groundwater recharge with highly treated water from the Donald C. Tillman Water Reclamation Plant (DCTWRP) planned for 2024 and beyond.

4.3.3 Imported Water

Metropolitan is the largest water wholesaler for domestic and municipal uses in Southern California. As one of 26 member agencies, LADWP purchases supplemental water from Metropolitan in addition to the supplies from local groundwater and LAA. Metropolitan imports a portion of its water supplies from Northern California through the SWP's California Aqueduct and from the Colorado River through Metropolitan's own CRA. LADWP will continue to rely on Metropolitan to meet its current and future water needs.

In ongoing efforts to evaluate Metropolitan's own import reliability, an assessment was done to address changes in demand and supply conditions, and to provide additional resource reserves to mitigate against uncertainties in demand projections and risks in implementing supply programs. All these efforts went into Metropolitan's 2015 UWMP.

Table 4.4
Historical & Projected LADWP Groundwater Basin Supply (AF)

Fiscal Year	San Fernando Basin	Sylmar Basin	Central Basin	Total
Historical				
2011	44,029	225	5,099	49,353
2012	50,244	1,330	9,486	61,060
2013	50,550	1,952	6,310	58,812
2014	68,784	891	9,727	79,402
2015	80,097	0	6,948	87,045
Average	58,741	880	7,514	67,134
Projected				
2020	90,000	4,170	18,500	112,670
2025	88,000	4,170	18,500	110,670
2030	84,000	4,170	18,500	106,670
2035	92,000	4,170	18,500	114,670
2040	92,000	3,570	18,500	114,070
Average	89,200	4,050	18,500	111,750

All 26 member agencies have preferential rights to purchase water from Metropolitan. Pursuant to Section 135 of Metropolitan Act, "Each member public agency shall have a preferential right to purchase from the district for distribution by such agency, or any public utility therein empowered by such agency for the purpose, for domestic and municipal uses within the agency a portion of the water served by the district which shall, from time to time, bear the same ratio to all of the water supply of the district as the total accumulation of amounts paid by such agency to the district on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the district's works shall bear to the total payments received by the district on account of tax assessments and otherwise, excepting purchase of water, toward such capital cost and operating expense." This is known as preferential rights. As of June 30, 2015, LADWP has a preferential right to purchase 20.01 percent of Metropolitan's total water supply.

LADWP has worked with Metropolitan in developing a plan for allocating water supplies during periods of shortage. On February 12, 2008, Metropolitan's Board adopted its Water Supply Allocation Plan (WSAP). LADWP supported the adoption of this plan to acquire its dry weather condition supplies from Metropolitan.

In response to 2009 regulatory restrictions on water supplies from Northern California, Metropolitan's Board announced on April 14, 2009, that supply deliveries to the member agencies would be reduced by 10 percent. Reduced supply allocation was to be effective from July 1, 2009 through June 30, 2010, but in April 2010, Metropolitan Board approved an extension of the reduced supply allocation through June 30, 2011, primarily to restore storage balances in Metropolitan's groundwater and surface storage facilities.

On March 31, 2011, California Governor Jerry Brown declared an end to the statewide drought emergency that had been proclaimed earlier on February 27, 2009, by then Governor of California Arnold Schwarzenegger. Metropolitan's Board subsequently voted on April 12, 2011, to end implementation of the 2010/11 water supply allocation. In the same decision, Metropolitan's Board also voted against implementing a water supply allocation for 2011/12. These actions restored full imported water deliveries to member agencies without risk of allocation penalties effective April 2011.

Extremely dry conditions have persisted since 2012 and have left Californians with water supply shortages. On January 17, 2014, Governor Brown proclaimed a drought State of Emergency. At the end of March 2015, state hydrologists measured a record low five percent of normal snowpack in the Sierra Nevada Mountains. As a result, on April 1, 2015, Governor Brown issued Executive Order B-29-15 to achieve a statewide 25 percent reduction compared to 2013 usage levels in urban water use through February 28, 2016. On May 18, 2016, due to improved hydrologic conditions, SWRCB adopted a revised emergency water conservation regulation, effective June 2016 through January 2017, requiring locally developed conservation standards based upon each agency's specific circumstances.

The record dry and hot conditions of 2014 significantly impacted the water resources of both the State of California and Metropolitan. DWR limited supplies from SWP to only five percent of the contractors' SWP Table A amounts in 2014. This allocation was the lowest ever in the history of the SWP. Metropolitan was able to meet demands in 2014 by relying heavily on storage reserves to make up for the historically low allocation on the SWP. Metropolitan's dry-year storage reserves ended 2014 at approximately 1.2 million AF.

On April 14, 2015, to support Governor Brown's Executive Order B-29-15, and to reduce withdrawals from Metropolitan's dry-year storage reserves, Metropolitan implemented their WSAP at a Level 3 Regional Shortage Level, effective July 1, 2015, though June 30, 2016. Metropolitan's dry-year storage reserves ended 2015 at approximately 0.87 million AF.

On May 10, 2016, citing the improved water supply conditions and reduced water use due to conservation, Metropolitan voted to end the current WSAP allocation and rescind WSAP Regional Shortage Level 3 for allocation year 2016/17. Metropolitan, however, called for member agencies to continue with conservation efforts to safeguard against future dry years.

Purchases from Metropolitan have averaged 57 percent of the City's water supply over a five-year period from FY 2010/11 to 2014/15. The sustainable pLAn calls for a reduction in purchased imported water by 50 percent by 2025 from the FY 2013/14 level, which was approximately 441,870 AF. To meet targets established by the pLAn, LADWP plans to reduce water demand through increased conservation as well as increase local supply development. Local supply development includes enhancing the ability for groundwater pumping through increased stormwater capture projects and groundwater replenishment with highly treated recycled water as well as remediation of contaminated groundwater supplies in the San Fernando Basin. LADWP also plans to increase recycled water use for non-potable purposes. With these initiatives and under average hydrologic conditions, LADWP's 2015 UWMP projects Metropolitan purchases to be approximately 65,930 AFY in 2025.

State Water Project

The SWP consists of a series of pump stations, reservoirs, aqueducts, tunnels, and power plants, owned and operated by DWR, that collectively supply water from an intake at the San Francisco-San Joaquin Bay-Delta (Bay-Delta or Delta) to 29 urban and agricultural agencies throughout California including Metropolitan. More than two-thirds of California's residents obtain some of their drinking water from the Bay-Delta system.

The Bay-Delta's ecosystem is facing challenges caused by a number of factors such as agricultural runoff, predation of native fish species, urban and other discharge, changing ecosystem food supplies, and overall system operation. These and other issues in the Delta have led to reductions in the availability and reliability of water supply deliveries from the SWP.

Metropolitan's Board approved a Delta Action Plan in June 2007 that provides a framework for staff to pursue actions with other agencies and stakeholders to build a sustainable Delta and reduce conflicts between water supply conveyance and the environment. The Delta action plan aims to prioritize immediate short-term actions to stabilize the Delta while an ultimate solution is selected, and mid-term steps to maintain the Delta while a long-term solution is implemented. Currently, Metropolitan is working towards addressing three basin elements: Delta ecosystem restoration, water supply conveyance, and flood control protection and storage development.

In April 2015, the Brown Administration announced California WaterFix, as well as a separate ecosystem restoration effort called California EcoRestore. Together, the California WaterFix and California EcoRestore will make significant contributions toward achieving the coequal goals of providing a more reliable water supply for California and protecting, restoring and enhancing the Delta ecosystem established in the Sacramento-San Joaquin Delta Reform Act of 2009. In addition to enhancing the Delta Ecosystem, there are a number major actions, projects, and programs Metropolitan has undertaken to improve SWP reliability.

In most cases, Metropolitan's requested supply is equivalent to its full Table A Amount, currently at 1,911,500 AFY. The full Table A amount is defined as the maximum amount of imported water to be delivered and is specified in the contract between the DWR and each SWP contractor. After receiving each contractor's Table A annual requests, DWR assesses the amount of water supply available based on precipitation, snowpack on northern California watersheds, volume of water in storage, projected carry over storage, and Sacramento-San Joaquin Bay Delta regulatory requirements.

Due to the uncertainty in water supply, contractors are not typically guaranteed their full Table A Amount, but instead a percentage of that amount based on the available supply. Once the percentage is set early in the water year, the agency can count on that amount of supply or more in the coming year. The percentage is typically set at a conservative level and then held or adjusted upwards later in the year based on a reassessment of precipitation, snowpack, etc.

SWP supplies are estimated using the 2015 SWP Delivery Capability Report (DCR) distributed by DWR in July 2015. The 2015 DCR presents DWR's estimate of the amount of water deliveries for current conditions and conditions 20 years in the future. These estimates incorporate restrictions on SWP and Central Valley Project (CVP) operations in accordance with the biological opinions of the U.S. Fish and Wildlife Service and National Marine Fisheries Service biological opinions. In addition, these estimates of future capability also reflect potential impacts of climate change and sea level rise.

Metropolitan used a number of modeling studies from the 2015 DCR for its SWP supply forecasts during the 2015 UWMP planning horizon. Metropolitan used the Base Scenario as the current 2015 condition and transitioned to the delivery capability from the Early Long-Term Scenario over the next five years. For 2020 through 2029, Metropolitan used the forecasts from the Existing Conveyance Low Outflow Scenario. Metropolitan used the Alternative 4a study associated with the recirculated draft EIR/supplemental draft EIS on the California Water Fix for SWP deliveries for 2030 and beyond.

Colorado River

Metropolitan owns and operates the CRA, which since 1942 has delivered water from the Colorado River to Southern California. The Colorado River currently supplies approximately 17 percent of Southern California's water needs, and on average makes up about 15 percent of LADWP's purchases from Metropolitan. This source of supply has been secured to Metropolitan through long-standing legal entitlements. However, extended drought conditions and increased demands by other users have recently impacted its reliability.

The Colorado River supplies come from watersheds of the Upper Colorado River Basin in the states of Colorado, Utah, and Wyoming. Due to the way that Colorado River supplies are apportioned, snowpack and runoff levels do not impact Metropolitan water supplies in the current year. Instead, snowpack and runoff would impact storage levels at Lake Powell and Lake Mead, which would then affect the likelihood of surplus or shortage conditions in the future.

By Metropolitan having two principal sources of supply that draw from two different watersheds, Metropolitan is able to utilize supplies from the Colorado River to offset reductions in SWP supplies and buffer impacts of the California drought. Metropolitan plans to use CRA deliveries, storage reserves and supplemental water transfers and purchases to meet regional demands.

Under a permanent service contract with the U.S. Secretary of the Interior (Secretary), Metropolitan is entitled to receive water from the Colorado River and its tributaries. This water is also available to other users in California, as well as users in the states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming (Basin States). Under a 1944 treaty, Mexico is allotted 1.5 million acre-feet annually, except in extraordinary circumstances. There is a long history of competition among users, but current conditions necessitate increased cooperation.

California is apportioned 4.4 million AF, annually, plus one-half of any surplus that may be available for use, collectively, in Arizona, California, and Nevada. In addition, California has historically been allowed to use Colorado River water apportioned to, but not used by, Arizona or Nevada. Since 2003, due to increased consumption, there has been no such unused, apportioned water available to California. Of the California apportionment, Metropolitan holds the fourth priority right to 550,000 AFY under a 1931 priority system governing allotments to California. This is the last priority within California's basic apportionment of 4.4 million AF. Beyond the basic apportionment, Metropolitan holds the fifth priority right to 662,000 AF of water.

Historically, Metropolitan has been able to claim most of its legal entitlement of Colorado River water and could divert over 1.2 million AF in any year, but persistent drought conditions since 1999 have contributed to a decrease in these claims. The recent 16-year drought has been so severe that it has resulted in major reductions in water deliveries from the Colorado River. Metropolitan's CRA supplies totaled approximately 923,000 AF in calendar year 2015.

Under the Colorado River Basin Project Act of 1968, the Secretary is required to issue an Annual Operating Plan describing CRA operations and projected releases. Considering drought conditions and declining storages, the 2014 release for Lake Powell was 7.48 million AF, which was the lowest since the filling of the reservoir in the 1960s. Moreover, reservoir storages along the CRA have declined dramatically.

The shortage predicament has increased management efforts by the Federal Government and states holding water rights. In May 2005, the Secretary directed the U. S. Bureau of Reclamation (BOR) to initiate the "Development of Lower Colorado River Basin Shortage Guidelines and Coordinated Management Strategies for Lakes Powell and Mead Under Low Reservoir Conditions." These were the first such guidelines to address shortage conditions, as opposed to normal and surplus conditions. Since May of 2005, and in response to the Secretary's directive, the seven Basin States have reached agreement to transform management of the Colorado River system water through conjunctive management of Lakes Mead and Powell, and the adoption of shortage guidelines.

In November 2007, BOR issued a Final EIS including new federal guidelines concerning the operation of the Colorado River system reservoirs. The Secretary issued the final guidelines through a Record of Decision signed in December 2007. The Record of Decision and accompanying agreement among the Colorado River Basin States protect reservoir levels by reducing deliveries during drought periods, encouraging agencies to develop conservation programs, and allowing the states to develop and store new water supplies. The Colorado River Basin Project Act of 1968 insulates California from shortages in all but the most extreme hydrologic conditions.

In May 2016, the 24-month look-ahead-study by BOR projected the end-of-water-year elevation at Lake Powell to be above 3,575 feet and the end-of-water-year elevation at Lake Mead to be below elevation 1,075 feet. As determined in the April 2016, 24-Month Study, and documented in the 2016 Annual Operating Plan, Lake Powell's operation in water year 2016 will be governed by the Upper Elevation Balancing Tier and will range from 8.23 to 9.0 million AF. The projected release from Lake Powell in water year 2016 will be updated each month throughout the remainder of the water year

4.3.4 Recycled Water Supply

The City has a stated goal to supply 75,400 AFY of recycled water by 2040 to off-set imported water use. This will increase recycled water use in the City more than six-fold as a percentage of supply, from the current two percent to 13 percent by 2040. Some of the examples of the steps the City is taking in order to achieve this goal are listed below. Other projects not listed below will also contribute to recycled water use in City's service area.

Recycled Water Master Planning (RWMP). In 2012, LADWP completed a three-year RWMP. RWMP documents guide near-term recycled water planning through 2035, as well as long-term recycled water planning for up to 50 years beyond the 2035 horizon. RWMP documents include an evaluation of recycling alternatives that integrate two strategies to increase recycling: Groundwater Replenishment (GWR), and non-potable reuse (NPR). GWR project will replenish the San Fernando Basin with up to 30,000 AFY of recycled water. NPR projects will increase NPR recycled water use to 45,400 AFY by 2040 by increasing deliveries to irrigation and industrial customers throughout the City.

pLAn. The Mayor's Sustainable City pLAn established goals to increase recycled water use by expanding recycled water by an additional 6 million gallons per day by 2017 at Terminal Island Water Reclamation Plant, converting 85 percent of public golf courses to recycled water, developing a strategy to convert the City's lakes to recycled water, and expanding recycled water production, treatment, and distribution to incorporate indirect potable reuse and direct potable reuse.

GWR Environmental Documentation. In September 2013, City launched the environmental review process for the GWR project by issuing a notice of preparation of a Draft EIR and releasing an Initial Study for public review. City released the Draft EIR for public review in May of 2016, released the Final EIR in the fall of 2016, and the LADWP Commission approved the EIR on December 16, 2016. This project would replenish SFB with up to 30,000 AFY of purified recycled water from DCTWRP. Achieving this replenishment goal would entail operating DCTWRP at the plant's full existing capacity to treat up to 80 million gallons per day of wastewater.

Harbor Refineries Pipeline Project. Approximately 85 percent of this project's 40,400 feet of recycled water piping has already been installed in the Harbor Area. This piping will convey recycled water to potential industrial and irrigation customers and is anticipated to be completed in 2017. LADWP is aggressively working with the large industrial customers in the Harbor area to convert to recycled water once available.

Elysian Park Water Recycling Project. The Elysian Park Water Recycling Project will not only irrigate the Elysian Fields Park and parts of the Elysian Park neighborhood, but also provide increased supply and reliability to the recycled water system overall. This project proposes the installation of a nearly two miles of pipeline, two pump stations, and a one or two million gallon storage tank. Its construction will ensure dependable service to meet Los Angeles' growing demand for recycled water in the Metro area. The project will include demolition of the existing 500,000 gallon tank at Elysian Park and installation of separate new potable water pipelines for restrooms and drinking fountains in the park. Recycled water will be supplied from the Los Angeles-Glendale Water Reclamation Plant. Anticipated project completion is 2021.

Downtown Water Recycling Project. The Los Angeles-Glendale Water Reclamation Plant will supply recycled water for the Downtown Water Recycling Project. This project proposes installation of up to 86,500 linear feet of 16-inch purple pipe into and through Downtown Los Angeles. The project will supply up to 2,600 AFY (847 million gallons per year) of recycled water for non-potable demands – irrigation and industrial uses. Potential anchor customers include University of Southern California and Matchmaster. Anticipated project completion is 2021.

Recycled Water Outreach. The City developed RWMP documents with input from stakeholders through ongoing outreach activities beginning in 2009, including interaction with the Recycled Water Advisory Group (RWAG) and key stakeholders. Presentations were given to elected officials, Kindergarten-12 grade students, and Neighborhood Councils and community groups. RWAG, made up of approximately 70 stakeholders representing neighborhood councils, environmental groups, business organizations, civic groups, and other interests, has recently been integrated into the One Water L.A. Stakeholder Group. They provide the City with input and feedback on many water related issues including the water recycling program. The One Water L.A. Stakeholder Group continues to participate in workshops, facility tours, and update sessions, and provide insightful feedback to the City as projects are implemented.

4.3.5 Stormwater Capture

Stormwater runoff from urban areas is an underutilized resource. Within the City, the majority of stormwater runoff is directed to storm drains and ultimately channeled into the ocean. Unused stormwater reaching the ocean carries with it many pollutants that are harmful to marine life. In addition, local groundwater aquifers that should be replenished by stormwater are receiving less recharge than in the past due to increased urbanization. Urbanization has increased the City's hardscape, which has resulted in less infiltration of stormwater and a decline in groundwater elevations. The estimated current stormwater capture in the City is approximately 64,000 AFY.

The 2015 UWMP projects to double the amount of stormwater capture under a conservative scenario. Centralized stormwater capture projects will increase stormwater capture by approximately 35,000 AFY by year 2035. Centralized stormwater capture projects are large-scale operated projects that are designed specifically to infiltrate large amounts of runoff into underlying groundwater aquifers. Distributed stormwater capture projects, such as dry-wells and cisterns, will also provide 33,000 AFY of additional stormwater capture and infiltration/reuse in the SFB, for a total of 68,000 AFY including centralized capture by year 2035. Distributed stormwater/runoff capture refers to capturing localized dry and wet weather runoff.

The Stormwater Capture Master Plan defines stormwater capture targets over the next 20 years in five-year increments to year 2035, and identifies future centralized stormwater capture projects and program types for distributed stormwater capture such as on-site infiltration, on-site direct use, green streets, sub-regional infiltration, and sub-regional direct use. LADWP began its initial research for the Stormwater Capture Master Plan in the fall of 2013 and completed a final plan in late 2015. Stormwater Capture Master Plan goals were integrated into LADWP's 2015 UWMP.

Specific strategies under the Mayor's pLAn to increase stormwater capture include identifying funding mechanisms to implement the Enhanced Watershed Management Plans necessary for MS4 permit compliance, expanding use of permeable pavement sites and green streets (e.g., bioswales, infiltration cut-outs, permeable pavement, and street trees), and expanding the Rain Barrel Program.

LADWP's 2015 UWMP projects there will be a minimum of 15,000 AFY of increased groundwater pumping in SFB due to water supply augmentation through centralized stormwater infiltration by year 2040. Anticipating that stored groundwater will rebound in response to enhanced groundwater replenishment, LADWP will work with the Upper Los Angeles River Area Watermaster to continue observing actual water levels and re-evaluate basin safe yield to allow additional increases in groundwater production over time as SFB elevations rebound.

In addition, development has encroached onto waterway floodplains requiring the channelization of these waterways that once recharged the groundwater aquifers with large volumes of stormwater runoff. When the floodplains were undergoing rapid development, LADWP and the Los Angeles County Flood Control District reserved several parcels of land for use as spreading facilities. These facilities are adjacent to some of the largest tributaries of the Los Angeles River, and the Pacoima and Tujunga Washes.

During average and below average years, these spreading facilities are very effective at capturing a large portion of the stormwater flowing down the tributaries. However, they are incapable of capturing a significant portion of the flows during wet and extremely wet years. Weather patterns in Los Angeles are highly variable, with many periods of dry years and wet years. Some climate studies predict that these patterns may become more extreme in the future.

5 RELIABILITY OF WATER SUPPLIES

The Southern California region faces a challenge in satisfying its water requirements and securing firm water supplies. Increased environmental regulations and the competition for water from outside the region have resulted in reduced supplies of imported water. Continued population and economic growth correspond to increased water demands within the region, putting an even larger burden on local supplies.

Reliability is a measure of a water system's ability to manage water shortages. Reliability planning requires information about the following: (1) expected frequency and severity of shortages; (2) how additional water management measures are likely to affect the frequency and severity of shortages; and (3) how available contingency measures can reduce the impact of shortages when they occur. The reliability of the City's water supply is currently dependent on the reliability of both groundwater and imported water supplies, which are managed and delivered by various groundwater basin management agencies and Metropolitan, respectively. Despite the ongoing water supply challenges within the region, the goal and statutory mission of these agencies are to identify and develop projects to meet the water demands in the region. Sections 5.1 and 5.2 discuss these agencies, their roles in water supply reliability, and the near and long-term efforts they are involved with to ensure future reliability of water supplies to the City and the region as a whole.

State funding has been made available, through California voters' approval, to increase reliability of state water supplies. In March 2000, California voters approved Proposition 13, which authorized the State to issue $1.97 billion of its general obligation bonds for water projects. Additionally, California voters approved Proposition 50 in November 2002 and Proposition 84 in November 2006, which authorized the issuance by the State of $3.4 billion and $5.4 billion, respectively, of its general obligation bonds for water projects. Types of water projects that were eligible for funding under Propositions 13, 50, and 84 of these programs included water conservation, groundwater storage, water treatment, water quality, water security and Colorado River water management projects, many of which are within the scope of the California Plan. The 2014 Water Bond, through Proposition 1, provides funding to implement the three broad objectives of the California Water Action Plan: 1) more reliable water supplies, 2) restoration of important species and habitat, and 3) a more resilient, sustainably managed water resources system.

It includes allocations of $1,495 million administered by the California Department of Fish and Wildlife under Chapter 6 for watershed restoration and Delta water quality and ecosystem restoration grants. Proposition 1 also includes the following funding administered by DWR: $810 million for regional water reliability under Chapter 7 including integrated regional water management (IRWM) and water conservation and water use efficiency (WUE), $725 million for water recycling under Chapter 9 including desalination and advanced treatment technology, $900 million for groundwater sustainability under Chapter 10 including local plans and projects to manage groundwater, $395 million for flood management under Chapter 11 including reducing risk of levee failure and flooding in the Delta and statewide flood management. Additionally, the 2015 Agricultural Water Use Efficiency Grants provide a funding limit of $30 million and CalConserve water use efficiency revolving fund loans provide another $10 million limit. These funding levels include funds appropriated in a current or prior year budget.

5.1 Metropolitan Water District Supply Reliability

Through the Integrated Resources Plan (IRP) and subsequent updates including the 2015 update, Metropolitan has worked toward identifying and developing water supplies to provide 100 percent reliability. Due to competing needs and uses for all of the water sources and regional water operational issues, Metropolitan has undertaken a number of planning processes: the Integrated Resources Planning (IRP) Process, the Water Surplus and Drought Management (WSDM) Plan, the Urban Water Management Plan, and the Water Supply Allocation Plan (WSAP). Combined, these documents provide a framework and guidelines for optimum water planning into the future.

Metropolitan's ability to provide redundant layers of water supply availability and reliability to its member agencies is predicated on the regionally developed framework between Metropolitan and its members. As part of this process, Metropolitan has developed and adopted its Water Surplus and Drought Management Plan (WSDM) to provide policy guidance and manage regional water supply actions under both surplus and drought conditions to achieve the overall goal of ensuring water supply reliability to its member agencies as set forth in Metropolitan's 2015 UWMP and 2015 IRP.

The WSDM Plan outlines various water supply conditions and corresponding actions Metropolitan may undertake in response to moderate, serious and extreme water shortages. One example is the implementation its Water Supply Allocation Plan (WSAP), which allocates available water supplies among Metropolitan's member agencies based on factors such as impacts to retail customers, population and projected growth of particular member agencies, the availability of recycled water and other local supplies, conservation efforts, and other factors. At times when the WSAP is implemented, Metropolitan member agencies do not lose their ability to receive any particular amount of imported water supplies, but instead Metropolitan places limits on the amount of water its member agencies can purchase without facing a surcharge.

Metropolitan has made rapid progress to date developing SWP storage and transfer programs. Metropolitan has contractual rights to 65 thousand acre feet (TAF) of flexible storage at Lake Perris (East Branch terminal reservoir) and 154 TAF of flexible storage at Castaic Lake (West Branch terminal reservoir). This storage provides Metropolitan with additional options for managing SWP deliveries to maximize yield. Over multiple dry years, it can provide Metropolitan with 73 TAF of additional supply. In a single-dry year like 1977, it can provide up to 219 TAF of additional supply.

Metropolitan has identified a number of programs that could be used to achieve the regional long-term development targets for the CRA:

- Imperial Irrigation District/Metropolitan Conservation Program
- Palo Verde Land Management, Crop Rotation, and Water Supply Program
- Management of Metropolitan-Owned Land in Palo Verde
- Southern Nevada Water Authority and Metropolitan Storage and Interstate Release Agreement
- Lower Colorado Water Supply Project
- Lake Mead Storage Program
- Quagga Mussel Control Program

For details of these programs, reference Metropolitan's 2015 UWMP, Section 3.

A key component of Metropolitan's water supply capability is the amount of water in Metropolitan's storage facilities. Storage is a major component of Metropolitan's dry-year resource management strategy. Metropolitan's likelihood of having adequate supply capability to meet projected demands, without implementing the WSAP, is dependent on its storage resources.

In developing the supply capabilities in the 2015 UWMP, Metropolitan assumed the current (2015) storage levels at the start of simulation and used the median storage levels going into each of the five year increments based on the balances of supplies and demands. Under the median storage conditions, there is an estimated 50 percent probability that storage levels would be higher than the assumption used, and a 50 percent probability that storage levels would be lower than the assumption used. All storage capability figures shown in the 2015 UWMP reflect actual storage program conveyance constraints. Under some conditions, Metropolitan may choose to implement the WSAP in order to preserve storage reserves for a future year, instead of using the full supply capability. This can result in impacts at the retail level even under conditions where there may be adequate supply capabilities to meet demands.

Additional actions taken by Metropolitan over the past several years have increased spending on conservation, local projects and water supply/reliability enhancements significantly. This spending plan included expenditures for the improvement of water conveyance facilities, water transfers, and providing financial assistance to member agency's local conservation, recycling, and groundwater clean-up efforts, and this spending is continuing. To fund these past and future expenditures on conservation, recycling and other local projects, Metropolitan Tier 1 treated water rates were increased by almost 54% for the 5-year period from January 1, 2009 to January 1, 2014. Over the next two years, this rate increased more modestly by 3.7 and 2.0 percent each year for 2015 and 2016, respectively. And the rates recently approved by Metropolitan for 2017 and 2018 are similar at 3.9 and 3.7 percent, respectively.

5.1.1 Metropolitan Projected Regional Water Supply Capability

In its 2015 UWMP, Metropolitan estimated its regional water supply capability and projected demands for an average (normal) year based on an average of hydrologies for the years 1922-2012; for a single-dry year based on a repeat of the hydrology in the year 1977; and for multiple dry years based on a repeat of the hydrology of 1990-1992. A summary of the supply reliability assessment provided in Metropolitan's 2015 UWMP is shown in Table 5.2.

For each of these scenarios, a supply surplus is projected in every forecast year. Projected surpluses, based on the capability of current supplies, range from 0.1% to 89% of projected demands. With the inclusion of supplies under development, Metropolitan's potential surpluses range from 5% to 110% of projected demands (Metropolitan 2015 UWMP).

5.2 LADWP Supply Reliability

With its current water supplies, planned future water conservation, and planned future water supplies, LADWP will be able to reliably provide water to its customers through the planning period ending in FY 2040. LADWP's reliability projections account for water quality issues with source waters and the impacts of climate change on both supplies and demands. To meet targets established in pLAn, LADWP will reduce water consumption through conservation, increase recycled water use (including both non-potable and indirect potable reuse), and reduce reliance on imported water from Metropolitan.

Table 5.1
Metropolitan Supply Capability and Projected Demands (AFY)

Single Dry Year Metropolitan Supply Capability and Projected Demands (1977 Hydrology)					
Fiscal Year	**2020**	**2025**	**2030**	**2035**	**2040**
Capability of Current Supplies	2,584,000	2,686,000	2,775,000	2,905,000	2,941,000
Projected Demands	2,005,000	2,066,000	2,108,000	2,160,000	2,201,000
Projected Surplus	579,000	620,000	667,000	745,000	740,000
Projected Surplus %[(a)]	29%	30%	32%	34%	34%
Supplies under Development	63,000	100,000	316,000	358,000	398,000
Potential Surplus	642,000	720,000	983,000	1,103,000	1,138,000
Potential Surplus %[(a)]	32%	35%	47%	51%	52%
Multiple Dry Year Metropolitan Supply Capability and Projected Demands (1990-1992 Hydrology)					
Fiscal Year	**2020**	**2025**	**2030**	**2035**	**2040**
Capability of Current Supplies	2,103,000	2,154,000	2,190,000	2,242,000	2,260,000
Projected Demands	2,001,000	2,118,000	2,171,000	2,216,000	2,258,000
Projected Surplus	102,000	36,000	19,000	26,000	2,000
Projected Surplus %[(a)]	5%	2%	1%	1%	0.1%
Supplies under Development	43,000	80,000	204,000	245,000	286,000
Potential Surplus	145,000	116,000	223,000	271,000	288,000
Potential Surplus %[(a)]	7%	5%	10%	12%	13%
Average Year Metropolitan Supply Capability and Projected Demands (1922 - 2012 Hydrology)					
Fiscal Year	**2020**	**2025**	**2030**	**2035**	**2040**
Capability of Current Supplies	3,448,000	3,550,000	3,658,000	3,788,000	3,824,000
Projected Demands	1,860,000	1,918,000	1,959,000	2,008,000	2,047,000
Projected Surplus	1,588,000	1,632,000	1,699,000	1,780,000	1,777,000
Projected Surplus %[(a)]	85%	85%	87%	89%	87%
Supplies under Development	63,000	100,000	386,000	428,000	468,000
Potential Surplus	1,651,000	1,732,000	2,085,000	2,208,000	2,245,000
Potential Surplus %[(a)]	89%	90%	106%	110%	110%

(a) As a percentage of projected demand
Source – 2015 Metropolitan Urban Water Management Plan, June 2016

LADWP's 2015 UWMP projects the City's locally developed supplies including groundwater, groundwater replenishment, stormwater capture, and water conservation will increase from 14 percent (as an average for FY 2011-2015) to 47 percent in FY 2040 during normal year conditions; and to 49 percent in FY 2040 during dry year conditions. These local supplies are not influenced by variability in hydrology, and will become the cornerstone of LADWP's future water supplies. As a result, the City's combined imported supplies are projected to decrease significantly from 86 percent (FY 2011-2015) to 51 percent in FY 2040 for dry years; and to 53 percent in FY 2040 under normal conditions.

As for the City's imported supplies, they are still impacted by hydrology. The LAA has limited storage capacity, which means it is very susceptible to variations in hydrology, while Metropolitan (with much greater storage capacity) can provide a water supply to the City that is less susceptible to hydrologic conditions. By FY 2040, LAA deliveries are projected to be 7 percent in dry years, and 42 percent in normal years. Metropolitan will make up the remaining 44 percent in dry years, and provide 11 percent of the City's water supply needs in normal years.

5.2.1 LADWP Projected Water Supply Capability

To determine the overall service area reliability, LADWP defined three hydrologic conditions: average year (50-year average hydrology from FY 1962 to 2011 (normal year)); single-dry year (such as a repeat of the FY 2015 drought); and multi-dry year (such as a repeat of FY 2013 to FY 2015). These defined conditions are used to determine the corresponding level of LAA water supply.

The corresponding demand under each hydrologic condition is also determined. Weather patterns and water demands were further studied to determine single-dry year demand and multi-dry year demands. The single-dry and multiple-dry year demands are estimated to be 5 percent higher than the forecasted normal year demand including the demands of the Proposed Project and Remaining LRDP Allocation, which is conservative since Project water demand is based primarily on inside water use and not additional landscaping use and therefore not susceptible to dry weather conditions.

The normal year, single-dry year, and multiple-dry year water supply reliability summaries are shown in Table 5.2, Table 5.3, and Table 5.4, respectively. The projected supply portfolio under multiple-dry year conditions is almost identical to that under single-dry year conditions. The only difference being slight changes in the LAA water supply. In their 2015 UWMP, a major goal of LADWP is to reduce reliance on imported water, first from Metropolitan and then from the LAA system. In their normal year, single-dry year and multiple-dry year tables, they balanced demand with supply by adding up all other demands and showing Metropolitan as the last supply to balance demands. They then show Potential Supplies of 40,000 AFY in water transfers, which could potentially further reduce Metropolitan imports. For this WSA, the additional demand of the Proposed Project and Remaining LRDP Allocation is assumed to come from corresponding additional supplies from Metropolitan. And since Metropolitan has demonstrated in its 2015 UWMP that they have a surplus in all scenarios, LADWP is projected to have sufficient water supply to meet all demands including the demands from the Proposed Project and Remaining LRDP Allocation for normal year, single-dry year, and multiple-dry year conditions through the planning period.

Table 5.2
Normal Year LADWP Supply Reliability

Demand/Supply Component	Projected Demand/Supply (AFY)				
	2020	2025	2030	2035	2040
Projected Demands[a]					
Remaining LRDP Allocation[a]	-	28	28	28	28
Proposed Project[a]	-	494	494	494	494
Remaining LADWP WSA[a]	611,800	644,700	652,900	661,800	675,700
Total LADWP WSA Demand[a]	611,800	645,222	653,422	662,322	676,222
pLAn Water Demand Target	485,600	533,431	540,531	551,534	566,037
Existing / Planned Supplies					
Conservation[b]	125,800	110,900	111,600	109,100	108,100
Los Angeles Aqueducts[c]	275,700	293,400	291,000	288,600	286,200
Net Groundwater[d]	112,670	110,670	106,670	114,670	114,070
Recycled Water					
Irrigation & Industrial Use	19,800	29,000	39,000	42,200	45,400
GW Replenishment	-	30,000	30,000	30,000	30,000
Stormwater Capture					
SW Reuse (Harvesting]	400	800	1,200	1,600	2,000
SW Recharge	2,000	4,000	8,000	15,000	15,000
Subtotal	536,370	578,770	587,470	601,170	600,770
Metropolitan Purchases w/ Existing/Planned Supplies	75,430	66,452	65,952	61,152	75,452
Total Supplies	611,800	645,222	653,422	662,322	676,222
Potential Supplies					
Water Transfers[e]	40,000	40,000	40,000	40,000	40,000

(a) With existing passive conservation; WSA is water service area
(b) Additional active and passive conservation required to meet water use reduction goals in Sustainable City pLAn
(c) Assumes 20,000 AFY for dust mitigation on Owens Lake after FY 2024. Supply estimated to decrease 0.165%/year due to climate change
(d) Excludes stormwater recharge & groundwater replenishment that contribute to increased pumping
(e) Potential water transfer occurs in dry years with stored water acquired in average and wet years

Table 5.3
Single-Dry Year LADWP Supply Reliability

Demand/Supply Component	Projected Demand/Supply (AFY)				
	2020	2025	2030	2035	2040
Projected Demands[a]					
Remaining LRDP Allocation[a]	-	29	29	29	29
Proposed Project[a]	-	519	519	519	519
Remaining LADWP WSA[a]	642,400	676,900	685,500	694,900	709,500
Total LADWP WSA Demand[a]	642,400	677,448	686,048	695,448	710,048
pLAn Water Demand Target	485,600	533,431	540,531	551,534	566,037
Existing / Planned Supplies					
Conservation[b]	156,700	143,700	145,100	143,500	143,500
Los Angeles Aqueducts[c]	32,200	51,900	51,400	51,000	50,600
Net Groundwater[d]	112,670	110,670	106,670	114,670	114,070
Recycled Water					
Irrigation & Industrial Use	19,800	29,000	39,000	42,200	45,400
GW Replenishment	-	30,000	30,000	30,000	30,000
Stormwater Capture					
SW Reuse (Harvesting]	100	200	300	300	400
SW Recharge	2,000	4,000	8,000	15,000	15,000
Subtotal	323,470	369,470	380,470	396,670	398,970
Metropolitan Purchases w/ Existing/Planned Supplies	318,930	307,978	305,578	298,778	311,078
Total Supplies	642,400	677,448	686,048	695,448	710,048
Potential Supplies					
Water Transfers[e]	40,000	40,000	40,000	40,000	40,000

(a) With existing passive conservation; WSA is water service area
(b) Additional active and passive conservation required to meet water use reduction goals in Sustainable City pLAn
(c) Assumes 20,000 AFY for dust mitigation on Owens Lake after FY 2024. Supply estimated to decrease 0.165%/year due to climate change
(d) Excludes stormwater recharge and groundwater replenishment supplies that contribute to increased pumping
(e) Potential water transfer occurs in dry years with stored water acquired in average and wet years

Table 5.4
Multiple-Dry Year LADWP Supply Reliability

Demand/Supply Component	Projected Demand/Supply (AFY)				
	2020	2025	2030	2035	2040
Projected Demands[a]					
Remaining LRDP Allocation[a]	-	29	29	29	29
Proposed Project[a]	-	519	519	519	519
Remaining LADWP WSA[a]	642,400	676,900	685,500	694,900	709,500
Total LADWP WSA Demand[a]	642,400	677,448	686,048	695,448	710,048
pLAn Water Demand Target	485,600	533,431	540,531	551,534	566,037
Existing / Planned Supplies					
Conservation[b]	156,700	143,700	145,100	143,500	143,500
Los Angeles Aqueducts[c]	33,500	53,200	52,800	52,400	51,900
Net Groundwater*[d]	112,670	110,670	106,670	114,670	114,070
Recycled Water					
Irrigation & Industrial Use	19,800	29,000	39,000	42,200	45,400
GW Replenishment	-	30,000	30,000	30,000	30,000
Stormwater Capture					
SW Reuse (Harvesting]	100	200	300	300	400
SW Recharge	2,000	4,000	8,000	15,000	15,000
Subtotal	324,770	370,770	381,870	398,070	400,270
Metropolitan Purchases w/ Existing/Planned Supplies	317,630	306,649	304,149	297,349	309,749
Total Supplies	642,400	677,448	686,048	695,448	710,048
Potential Supplies					
Water Transfers[e]	40,000	40,000	40,000	40,000	40,000

(a) With existing passive conservation; WSA is water service area
(b) Additional active and passive conservation required to meet water use reduction goals in Sustainable City pLAn
(c) Assumes 20,000 AFY for dust mitigation on Owens Lake after FY 2024. Supply estimated to decrease 0.165%/year due to climate change
(d) Excludes stormwater recharge and groundwater replenishment supplies that contribute to increased pumping
(e) Potential water transfer occurs in dry years with stored water acquired in average and wet years

6 CONCLUSION

The information included in this WSA identifies a sufficient and reliable water supply for LADWP, now and into the future, including a sufficient water supply for the Proposed Project and Remaining LRDP Allocation. These supplies are also sufficient to provide for overall City-wide growth at the rate projected in LADWP's 2015 UWMP.

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UCLA Long Range Development Plan Amendment (2017) and Student Housing Projects

Final Subsequent Environmental Impact Report

VOLUME 2

Project Design Submittals for the Lot 15, Warren Hall and UNEX Sites
Responses to Comments
Clarification and Revisions to the Draft SEIR
Mitigation Monitoring and Reporting Program

SCH No. 2017051024

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SECTION 1.0 INTRODUCTION

1.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT REQUIREMENTS

Under the California Environmental Quality Act (CEQA) and University of California (UC) Procedures for Implementing CEQA, the Lead Agency must prepare and certify a Final Environmental Impact Report (Final EIR) for projects within the University's discretionary approval authority. The contents of a Final EIR are specified in Section 15132 of the CEQA Guidelines, which states that:

The Final EIR shall consist of:

(a) The draft EIR or a revision of the draft.
(b) Comments and recommendations received on the draft EIR either verbatim or in summary.
(c) A list of persons, organizations, and public agencies commenting on the draft EIR.
(d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
(e) Any other information added by the Lead Agency.

This document, in its entirety (Volumes 1 and 2), constitutes the Final Subsequent EIR (SEIR) for the University of California, Los Angeles (UCLA) Long Range Development Plan (LRDP) Amendment (2017) and Student Housing Projects (proposed Project). A Final EIR is defined by Section 15362(b) of the CEQA Guidelines as "containing the information contained in the draft EIR; comments, either verbatim or in summary, received in the review process; a list of persons commenting; and the response of the Lead Agency to the comments received."

This Final Subsequent EIR (SEIR) is composed of:

Volume 1 **LRDP Amendment (2017) and Student Housing Projects Draft Subsequent EIR and Technical Appendices.** This volume contains the Draft SEIR (August 2017), as revised to reflect clarifications and revisions included in Section 4 of the Final SEIR.

Volume 2 **List of Commenters, Project Design Submittals, Responses to Comments, Clarifications and Revisions, and the Mitigation Monitoring and Reporting Program.** This volume contains an explanation of the format and content of the Final SEIR; a complete list of public agencies and individuals that commented on the Draft SEIR; a description of the updated project designs for the proposed housing projects at the Lot 15, Warren Hall and UNEX sites; copies of the comment letters; the University's responses to all comments; a list of clarifications and revisions to the Draft SEIR; and the Mitigation Monitoring and Reporting Program (MMRP).

The Lead Agency must provide each agency that commented on the Draft SEIR with a copy of the proposed response at least ten days before certifying the Final SEIR. In addition, the Lead Agency may also provide an opportunity for members of the public to review the Final SEIR prior to certification, though this is not a requirement of CEQA.

1.2 USE OF THE FINAL SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

The Final SEIR will serve as the environmental document that informs the UC Board of Regents (The Regents) consideration of the campus' request for approval of the proposed Project. After completing the Final SEIR, and before approving the Project, the Lead Agency must make the following three certifications, as required by Section 15090 of the CEQA Guidelines:

- The Final EIR has been completed in compliance with CEQA;
- The Final EIR was presented to the decision-making body of the Lead Agency and the decision-making body reviewed and considered the information in the Final EIR prior to approving the project;
- The Final EIR reflects the Lead Agency's independent judgment and analysis.

As required by Section 15091 of the *CEQA Guidelines*, no public agency shall approve or carry out a project for which an EIR has been certified that identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings (Findings of Fact) for each of those significant effects, accompanied by a brief explanation of the rationale for each finding supported by substantial evidence in the record. The possible findings are:

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

(3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

Additionally, pursuant to Section 15093(b) of the CEQA Guidelines, "[w]hen the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record". As the proposed Project would result in significant unavoidable impacts, The Regents will be required to adopt a Statement of Overriding Considerations if it approves the proposed Project.

These certifications, the Findings of Fact, and the Statement of Overriding Considerations are included in a separate proposed Findings document. Both the Final EIR and the Findings are submitted to The Regents for consideration prior to making a decision on whether to approve the proposed Project.

1.3 PUBLIC REVIEW PROCESS

On May 5, 2017, UCLA issued a Notice of Preparation (NOP) for the UCLA LRDP Amendment (2017) and Student Housing Projects Draft SEIR for a 30-day public review period. As required by Section 15082(a) of the State CEQA Guidelines, UCLA (as lead agency) sent the NOP to the State Office of Planning and Research (OPR) and responsible agencies to solicit input on the scope and content of the Draft SEIR. In addition, UCLA sent the NOP to other regional and local agencies, and fourteen organizations and individual community members that have requested such notice. The local organizations include, but are not limited, to homeowner and property owner associations and neighborhood and community councils. As discussed in Section 2.3.1, Scoping Process, of the Draft SEIR, UCLA received nine NOP comment letters (from four agencies, one organization, and four individuals). A summary of written comments received in response to the NOP is provided in Draft SEIR Table 2-1, Notice of Preparation Comment Letters Received, and in each technical section in the SEIR, as applicable.

A Draft SEIR Scoping Meeting for the proposed Project was also held on May 31, 2017 (during the NOP review period) to solicit input from interested agencies, individuals, and organizations regarding the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in the EIR. The notice for the scoping meeting was sent out with the NOP and the meeting was also advertised on the UCLA Capital Programs website. The meeting was attended by one individual who was interested in learning more about the proposed housing projects; no input regarding the scope of the Draft SEIR was received. Other than UCLA, there were no public agency representatives present at the scoping meeting.

CEQA requires that a Draft EIR have a review period lasting at least 45 days but no longer than 60 days for projects that have been submitted to the State Clearinghouse for review by State agencies (CEQA Guidelines, Section 15105[a]). The Draft SEIR was released for public review on August 24, 2017; the public review period (47-days) concluded on October 9, 2017.

UCLA used several methods to solicit comments on the Draft SEIR. A Notice of Availability (NOA) along with a CD containing the Draft SEIR and technical appendices was mailed to various public agencies, homeowners associations (HOAs), organizations, NOP commenters, and individual community members that previously requested such notice. The NOA was also posted in the Daily Bruin, and a copy of the Draft SEIR was available for review at the Charles E. Young Research Library. The Draft SEIR was also available on UCLA's website and at the UCLA Capital Programs Facility, which is located at 1060 Veteran Avenue, Third Floor, on the UCLA campus, and was submitted to the State Clearinghouse for distribution to and review by State agencies.

A public hearing was held on September 26, 2017 on the UCLA campus during which the public was given the opportunity to provide comments on the Draft SEIR. The public hearing was attended by approximately 65 individuals (based on the sign-in sheet), including neighbors, community members, faculty, students, and other interested individuals. Over 30 of these individuals provided oral comments at the hearing; a transcript of these comments along with responses to the comments is provided in Section 3.4 of this Final SEIR. No public agency representatives attended the public hearing.

1.4 LIST OF EIR COMMENTERS

In accordance with Section 15132 of the State CEQA Guidelines, following is a comprehensive list of the agencies and individuals that submitted comments on the Draft SEIR. Responses to all comments received are provided in Section 3, Responses to Comments, of this Final SEIR.

Each comment letter has been divided into sequential numbered comments (i.e., 1, 2, 3).

Comment Letters	**Date of Letter**

State Agencies

1.	Governor's Office of Planning and Research (OPR)	October 10, 2017
2.	California Department of Transportation	October 9, 2017

Organizations

3.	Brent Manor Apartments, LLC Gayley Manor Apartments, LLC Levering Arms Apartments, LLC *Fatemeh Farmy, Manager*	October 9, 2017
4.	North Westwood Village Residents' Association *Wolfgang Veith*	October 8, 2017
5.	The Urban Wildlands Group, Inc. *Travis Longcore, Ph.D., Science Director*	October 7, 2017
6.	Westwood Community Council, Inc. *Steven D. Sann, J.D., Chair*	October 9, 2017
7.	Westwood Hills Property Owners Association *Terry A. Tegnazian, President*	October 9, 2017
8.	Westwood Neighborhood Council *Constance Boukidis, Chair, Land Use and Planning Committee*	September 24, 2017

Individuals

9.	Fatemeh Farmy	October 7, 2017
10.	Amy Liu and Family	October 8, 2017
11.	Adam Green	September 27, 2017
12.	Carole Magnuson	October 9, 2017
13.	Alvin Milder(a)	October 9, 2017
14.	Alvin Milder(b)	October 9, 2017
15.	Harvey Miller	October 9, 2017
16.	Debbie and Howard Nussbaum	October 9, 2017
17.	Alexander W. Schwada	September 27, 2017
18.	John Schwada	October 9, 2017
19.	Andrew Strasmore	October 7, 2017
20.	UCLA Faculty and Lecturers *Paavo Monkkonen, Associate Professor of Urban Planning and Public Policy* *Leobardo Estrada, Associate Professor of Urban Planning* *Joan Ling, Lecturer in Urban Planning* *Carol Goldstein, Lecturer in Urban Planning* *Anastasia Loukaitou-Sideris, Professor of Urban Planning* *Martin Wachs, Distinguished Professor Emeritus of Urban Planning* *Dana Cuff, Professor of Architecture, Urban Design and Urban Planning* *Michael Lens, Associate Professor of Urban Planning and Public Policy* *Michael Manville, Assistant Professor of Urban Planning*	September 30, 2017

Chris Tilly, Professor of Urban Planning
Paul Ong, Professor of Urban Planning
JR De Shazo, Professor of Public Policy, Urban Planning, and Civil and Environmental Engineering
Ananya Roy, Professor of Urban Planning and Social Welfare
Robin Liggett, Professor Emeritus of Urban Planning
Goetz Wolff, Lecturer in Urban Planning
Evelyn Blumenberg, Professor of Urban Planning
Donald Shoup, Distinguished Research Professor of Urban Planning
Brian Taylor, Professor of Urban Planning
Kian Goh, Assistant Professor of Urban Planning
Michael Storper, Distinguished Professor of Urban Planning
Abel Valenzuela, Professor of Urban Planning and Chicano Studies

21. Sherry West October 9, 2017

Public Hearing Speakers (September 26, 2017)

Ann Hayman
Alvin Milder
Tima Farmy
Paavo Monkkonen
Alex Schwada
Stephen Hohde
Amy Liu
Thomas Abbor
Rafi Sands
Terry Tegnazian
John Heidt
Parshan Khosrair
Robert Eoelstein
Joshua Avila
Nicolas Riani
Isaiah Rutledge
Emily Earnest
Elaine Huang
Alexander Yee
Philip Gabriel
Lisa Chapman
Jonathan Wisner
Shahamah Tarig
Garrett R. Dahn
Emilio Balingit
Gabe Rose
Arielle Yael Mokhtarzadeh
Nick Burns
Steve Sann
Austin Cyr
Michael Skiles
Matt Stauffer
John Schwada
Unidentified Speakers

1.5 PROJECT DESIGN SUBMITTALS FOR THE LOT 15, WARREN HALL AND UNEX SITES

Section 3.9, Anticipated Discretionary Approvals, of the Draft SEIR, identifies that The Regents will use information in the SEIR for consideration of approvals related to and involved in the implementation of the proposed Project, including design approval for one or more of the proposed housing developments. Consistent with the identified action, UCLA is requesting design approval for the proposed housing projects at the Lot 15, Warren Hall and UNEX sites. The proposed housing projects at the Warren Hall and UNEX sites are being referred to as the Southwest Campus Apartments and 10995 Le Conte Apartments, respectively, in the submittal to The Regents. Section 2 of this Final SEIR includes information about the project design submittals and demonstrates that the currently proposed housing projects at these sites are within the scope of the analysis presented in the Draft SEIR.

As further discussed in Section 2 of this Final SEIR, the updated project designs being considered by The Regents do not result in any of the conditions set forth in Section 15088.5 of the State CEQA Guidelines requiring that the SEIR be recirculated prior to its certification.

1.6 CLARIFICATION AND REVISIONS TO THE DRAFT SEIR

Clarification and revisions to the text of the Draft EIR have been made in Section 4 (Volume 2) of this Final EIR, with ~~strikethrough~~ text for deletions and <u>underlined</u> text for additions. The text as drafted in Section 4 supersedes and replaces the original Draft EIR text, and is contained in Volume 1. As further discussed in Section 4 of this Final SEIR, the Draft SEIR revisions and information presented in the responses to comments do not result in any of the conditions set forth in Section 15088.5 of the State CEQA Guidelines requiring that the SEIR be recirculated prior to its certification.

1.7 MITIGATION MONITORING AND REPORTING PROGRAM

The University will adopt a MMRP for the proposed Project, as required for compliance with Sections 21081(a) and 21081.6 of the California Public Resources Code. The proposed MMRP is included in its entirety in Section 4 of this Final SEIR (Volume 2).

The Final SEIR for the proposed Project analyzes the impacts of the proposed Project, which includes all relevant mitigation measures (MMs) and campus programs, practices, and procedures (PPs) carried forward from the March 2009 LRDP Amendment Final EIR. The MMRP included in Section 4 identifies the LRDP EIR MMs and PPs included as part of the Project description and project-specific mitigation measures, and obligates the University to implement the identified LRDP EIR PPs and MMs, and project-specific MMs. The MMRP will be reviewed by The Regents in conjunction with consideration for approval of the proposed Project and certification of the Final SEIR.

Following certification of the Final SEIR and approval of the MMRP by The Regents, the PPs and MMs from the March 2009 LRDP Amendment Final EIR included as part of the Project description would be monitored in conjunction with UCLA's annual LRDP EIR Mitigation Monitoring Program and reporting process.

SECTION 2.0 PROJECT DESIGN SUBMITTALS FOR THE LOT 15, WARREN HALL AND UNEX SITES

2.1 INTRODUCTION

As discussed in Section 2.2, Type of Environmental Impact Report, of the Draft SEIR, the Draft SEIR was prepared "with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences," as identified in Section 15151 of the State CEQA Guidelines. While detailed design information for the student housing projects proposed at five on campus sites was not available when the Draft SEIR was prepared, there was sufficient information available: (1) to identify specific development sites and associated potential physical impact areas and construction assumptions; (2) to identify the maximum number of beds anticipated at each site; (3) to identify the types of support uses that would be necessary to accommodate the students at each site; and (4) determine the size (e.g., square footage, height and massing) of potential structures at each site, as necessary to accommodate the proposed uses. This level of information was sufficient to allow for a project-level analysis of the assumed "maximum development" scenario on campus (e.g., 6,900 beds, a net increase of 1,500,000 gross square feet [gsf] of development), and at the individual proposed housing sites. The intent of the Draft SEIR was to provide sufficient detailed analysis such that future design approvals for the student housing projects are within the scope of the proposed Project described and analyzed in the Draft SEIR. It was further identified that "At the design approval stage, the University will evaluate each individual housing project to determine whether it is within the scope of the program described and evaluated in this Draft SEIR, and to determine what, if any, additional environmental documentation pursuant to CEQA, is needed".

Section 3.9, Anticipated Discretionary Approvals, of the Draft SEIR, identifies that The Regents will use information in the SEIR for consideration of approvals related to and involved in the implementation of the proposed Project, including design approval for one or more of the proposed housing developments. Following preparation of the Draft SEIR, schematic designs for the proposed housing projects at the Lot 15, Warren Hall and UNEX sites were prepared. It should be noted that the proposed housing projects at the Warren Hall and UNEX sites are being referred to as the Southwest Campus Apartments and 10995 Le Conte Apartments, respectively, in the submittal to The Regents; however, for purposes of discussion in this Final SEIR the naming functions used in the Draft SEIR are used. Consistent with the anticipated discretional approvals identified in the Draft SEIR, UCLA is requesting design approval for these housing projects. As described below, no new significant information results from this project change and recirculation of the Draft SEIR is not required. This section includes information about the designs submitted to The Regents for approval, and addresses consistency of these project designs with the proposed housing projects evaluated in the Draft SEIR. It should be noted that schematic designs for the proposed housing projects at the Bradley and Drake Stadium sites have not been prepared and UCLA is not requesting design approvals for these sites at this time.

Section 15088.5(a) of the California Environmental Quality Act (CEQA) Guidelines states:

(a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents

have declined to implement. “Significant new information” requiring recirculation include, for example, a disclosure showing that:

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.

(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

As described below, no new significant information results from the proposed schematic designs for the housing projects at the Lot 15, Warren Hall, and UNEX sites and recirculation of the Draft SEIR is not required. Notably, there would not be an increase in the maximum gross square feet (gsf) of development or maximum bed count at any site, the physical impact areas and general construction assumptions would remain the same, and the physical characteristics of the proposed buildings (e.g., height and massing) would be within the scope of what was analyzed in the Draft SEIR. This Final SEIR does not assume any reduction in impact levels, compared to those disclosed in the Draft SEIR, would result from the proposed schematic designs at the Lot 15, Warren Hall, or UNEX sites.

2.2 SCHEMATIC DESIGNS FOR PROPOSED HOUSING AT THE LOT 15, WARREN HALL AND UNEX SITES

Consistent with the proposed Project identified in the Draft SEIR, UCLA is proposing to develop on-campus student housing on five sites in various campus zones. While there are no proposed changes to the housing projects at the Bradley and Drake Stadium sites, schematic designs for the proposed housing projects at the Lot 15, Warren Hall and UNEX sites have been prepared. The schematic designs, which refine the details for the housing projects to be development at these sites, are described in this section.

Table 2-1 compares the gsf of the currently proposed buildings and bed count at the Lot 15, Warren Hall and UNEX sites based on schematic designs with the development assumptions presented and analyzed in the Draft SEIR. It should be noted that, consistent with the assumptions in the Draft SEIR, existing buildings at these sites would be demolished to accommodate the proposed housing projects. As shown, the total gsf and bed count at each site would be less than that assumed and analyzed in the Draft SEIR; there would be a reduction of 116,400 gsf of new development and 281 fewer beds.

The support uses to be provided at each site would be consistent with those identified in the Draft SEIR.

TABLE 2-1
LOT 15, WARREN HALL AND UNEX SITES
SQUARE FOOTAGE AND BED COUNT SUMMARY

Housing Site	Gross Square Feet			Bed Count		
	Maximum Evaluated in Draft SEIR	Currently Proposed Based on Schematic Design	Change	Maximum Evaluated in Draft SEIR[g]	Currently Proposed Based on Schematic Design[h]	Change
Lot 15	353,000[a]	343,600[b]	-9,400	1,800	1,781	-19
Warren Hall	650,000[c]	591,100[d]	-58,900	2,350	2,279	-71
UNEX	350,000[e]	301,900[f]	-48,100	1,350	1,159	-191
Total	**1,353,000**	**1,236,600**	**-116,400**	**5,500**	**5,219**	**-281**

[a] Net increase of 341,000 gsf with demolition of the 2 existing Ornamental Horticulture buildings at the Lot 15 site (12,000 gsf).
[b] Net increase of 331,600 gsf with demolition of the 2 existing Ornamental Horticulture buildings at the Lot 15 site (12,000 gsf). The new residence hall would consist of 311,700 gsf of residential space and 31,900 gsf of common space.
[c] Net increase of 540,500 gsf with demolition of the existing buildings at the Warren Hall site (109,500 gsf).
[d] Net increase of 481,600 gsf with demolition of the existing buildings at the Warren Hall site (109,500 gsf). The new residence hall would consist of 563,200 gsf of residential space and 27,900 gsf of common space.
[e] Net increase of 256,500 gsf with demolition of the existing UNEX building (93,500 gsf).
[f] Net increase of 208,400 gsf with demolition of the existing UNEX building (93,500 gsf). The new residence hall would consist of 289,200 gsf of residential space and 12,700 gsf of common space.
[g] This includes all undergraduate beds except for the Warren Hall site, which would include up to 488 graduate student beds.
[h] This includes all undergraduate beds except for the Warren Hall site, which would include up to 321 graduate student beds.

Following is additional information about the proposed housing projects at the Lot 15, Warren Hall and UNEX sites.

2.2.1 LOT 15 SITE

The current conceptual site plan for the proposed housing project at the Lot 15 site is provided in Exhibit 2-1 (compared to Figure 3-8 in the Draft SEIR). An aerial perspective of these buildings demonstrating the height and massing in relation to surrounding uses is presented in Exhibit 2-2 (compared to Figure 3-9 in the Draft SEIR), and a conceptual rendering is presented in Exhibit 2-3. As shown, consistent with the proposed Project analyzed in the Draft SEIR, two mid-rise buildings would be constructed; however, both buildings would be 8-levels. The proposed Project analyzed in the Draft SEIR included a 10-level building (refer to Table 2-2). The southern building would continue to have a partial subterranean level for housing maintenance storage and housing maintenance offices. The building materials would be consistent with those identified in the Draft SEIR.

Lot 15 – Conceptual Site Plan

Exhibit 2-1

UCLA LRDP Amendment (2017) and Student Housing Projects

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Lot 15 – Aerial Massing Perspective

Exhibit 2-2

UCLA LRDP Amendment (2017) and Student Housing Projects

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Lot 15 – Conceptual Rendering

Exhibit 2-3

UCLA LRDP Amendment (2017) and Student Housing Projects

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TABLE 2-2
LOT 15 SITE
BUILDING CHARACTERISTICS

Building	Number of Levels		Maximum Building Elevation (above mean sea level)	
	Evaluated in Draft SEIR	Currently Proposed Based on Schematic Design	Evaluated in Draft SEIR	Currently Proposed Based on Schematic Design
Building 1 (North)	10	8	601.0	591.5
Building 2 (South)	8[a]	8[a]	596.5	591.5

[a] Does not includes a subterranean level.

Parking and vehicular and pedestrian access would also be consistent with what was analyzed in the Draft SEIR, including the provision of a pedestrian bridge, which would provide access to existing undergraduate housing, dining, and study facilities across De Neve Drive. Additionally, the required utility infrastructure identified in the Draft SEIR would remain the same.

The construction schedule for the Lot 15 site has been refined: demolition would occur from October 2018 to January 2019, construction would begin in February 2019 and be complete in June 2021. This schedule is consistent with the construction assumptions and associated analysis in the Draft SEIR.

2.2.2 WARREN HALL SITE

The current conceptual site plan for the proposed housing project at the Warren Hall site is provided in Exhibit 2-4 (compared to Figure 3-10 in the Draft SEIR). An aerial perspective of these buildings demonstrating the height and massing in relation to surrounding uses is presented in Exhibit 2-5 (compared to Figure 3-11 in the Draft SEIR), and a conceptual rendering is provided in Exhibit 2-6. As shown, consistent with the proposed Project analyzed in the Draft SEIR, three mid-rise buildings would be constructed (refer to Table 2-3). The building materials would be consistent with those identified in the Draft SEIR.

TABLE 2-3
WARREN HALL SITE
BUILDING CHARACTERISTICS

Building	Number of Levels		Maximum Building Elevation (above mean sea level)	
	Evaluated in Draft SEIR	Currently Proposed Based on Schematic Design	Evaluated in Draft SEIR	Currently Proposed Based on Schematic Design
Building 1 (West)	8	8	485	483
Building 2 (East)	10	10	509	508
Building 3 (South)	8	8	480	479

Parking and vehicular and pedestrian access would also be consistent with what was analyzed in the Draft SEIR with vehicular access from Weyburn Place. The proposed bus turnout/pullout on

Warren Hall – Conceptual Site Plan

Exhibit 2-4

UCLA LRDP Amendment (2017) and Student Housing Projects

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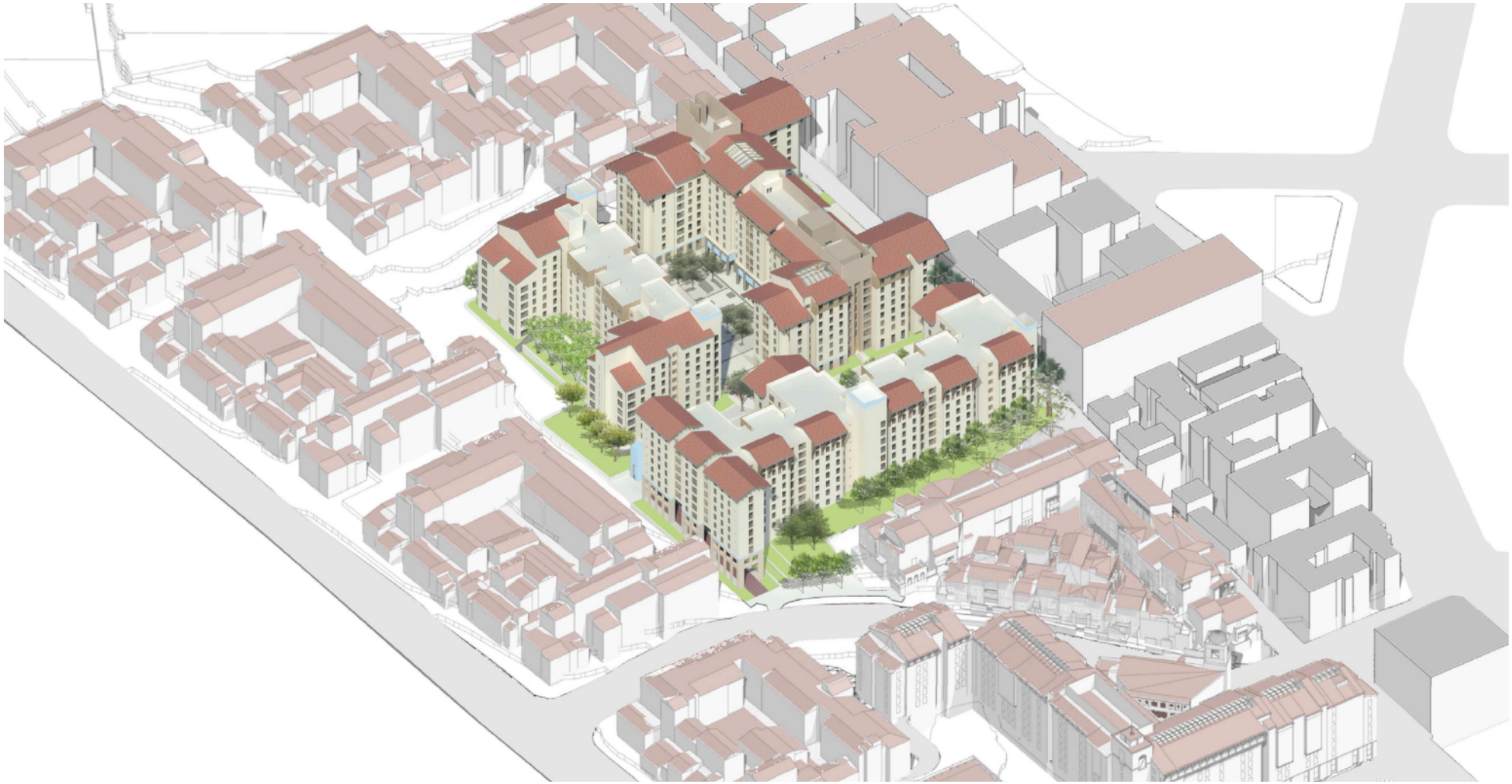

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Warren Hall – Aerial Massing Perspective

Exhibit 2-5

UCLA LRDP Amendment (2017) and Student Housing Projects

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Warren Hall – Conceptual Rendering

Exhibit 2-6

UCLA LRDP Amendment (2017) and Student Housing Projects

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the north side of Weyburn Avenue would remain the same as identified in the Draft SEIR and required utility infrastructure identified in the Draft SEIR would also remain the same.

The construction schedule for the Warren Hall site has been refined. Consistent with the construction assumptions and associated analysis in the Draft SEIR, demolition is estimated to occur from November 2018 to April 2019. However, the beginning and end of building construction activities are projected to occur slightly later then identified Draft SEIR: building construction would begin in May 2019 and would be completed in April 2022, compared to winter 2018/2019 and (early) Winter 2022 assumed in the Draft SEIR. The analysis assumptions in the Draft SEIR relative to the maximum number of truck trips and daily construction activities would not increase and there would not be any new or more severe construction-related impacts. Further, the construction activities would not overlap with initiation of construction activities for the Bradley or Drake Stadium sites (estimated to occur in fall 2022 and spring 2023, respectively).

2.2.3 UNEX SITE

The current conceptual site plan for the proposed housing project at the UNEX site is provided on Exhibit 2-7 (compared to Figure 3-12 in the Draft SEIR). An aerial perspective of the proposed building demonstrating the height and massing in relation to surrounding uses is presented in Exhibit 2-8 (compared to Figure 3-13 in the Draft SEIR). A conceptual rendering is presented in Exhibit 2-9. The proposed building at the UNEX site retains the 9-level component near the intersection of Le Conte Avenue and Levering Avenue; however, the previously proposed 20-level building has been reduced to 17 levels (refer to Table 2-4). The building materials would be consistent with those identified in the Draft SEIR, and along with the proposed architecture, have been designed to respond to the existing built environment in the area. The building design is described in Topical Response 4, under the discussion of Aesthetic/Visual Impacts and Land Use Compatibility.

TABLE 2-4
UNEX SITE
BUILDING CHARACTERISTICS

Building	Number of Levels		Maximum Building Elevation (above mean sea level)	
	Evaluated in Draft SEIR	Currently Proposed Based on Schematic Design	Evaluated in Draft SEIR	Currently Proposed Based on Schematic Design
Building 1	9	9	439	437
	20	17	565[a]	532[b]

a. This is the elevation at the top of the elevator penthouse; the elevation at the top of parapet with the originally proposed 20-story building was 542-feet above msl.
b. This is the elevation at the top of the elevator penthouse; the elevation at the top of parapet based on the current design is 514-feet above msl.

Parking and vehicular and pedestrian access would also be consistent with what was analyzed in the Draft SEIR with vehicular access from Gayley Avenue. The required utility infrastructure identified in the Draft SEIR would also remain the same.

Consistent with the construction assumptions and associated analysis in the Draft SEIR, demolition would occur from August 2018 to February 2019. However, the beginning and end of building construction activities are projected to occur slightly later then identified Draft SEIR:

UNEX – Conceptual Site Plan

Exhibit 2-7

UCLA LRDP Amendment (2017) and Student Housing Projects

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UNEX – Aerial Massing Perspective

Exhibit 2-8

UCLA LRDP Amendment (2017) and Student Housing Projects

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UNEX – Conceptual Rendering

Exhibit 2-9

UCLA LRDP Amendment (2017) and Student Housing Projects

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building construction would begin in spring 2019 and would be completed in fall 2021, compared to fall 2018 and (early) and spring 2021 assumed in the Draft SEIR. The analysis assumptions in the Draft SEIR relative to the maximum number of truck trips and daily construction activities would not increase and there would not be any new or more severe construction-related impacts. Further, the construction activities would not overlap with initiation of construction activities for the Bradley or Drake Stadium sites (estimated to occur in fall 2022 and spring 2023, respectively).

SECTION 3.0 RESPONSES TO COMMENTS RECEIVED DURING PUBLIC REVIEW PERIOD

3.1 COMMENTS RECEIVED

This section of the Final SEIR contains all comments received on the Draft SEIR during the public review period, as well as the University's responses to these comments. Consistent with Section 15088 of the CEQA Guidelines, comments that raise significant environmental issues are provided with responses. Reasoned, factual responses have been provided to all substantive Draft SEIR comments received. Comments that do not require a response include those that (1) do not address the adequacy or completeness of the Draft SEIR; (2) do not raise substantive environmental issues; (3) do not address the proposed project; or (4) request the incorporation of additional information not relevant to environmental issues.

Where a comment does not raise a significant environmental issue or where it expresses the subjective opinion of the commenter, the comment is noted, but no response is provided. Comments that have been noted or that are outside the scope of CEQA review will be forwarded for consideration to the decision makers as part of the campus' request for project approval. All comments will be considered by The Regents when making a decision on the project.

The complete text of the written comments—and the University of California's response to those comments—is presented in this section. This section is formatted so that the respective comment letters are followed immediately by the corresponding responses. The comment number provided in the right margin of the letter corresponds to the responses provided. A transcript of the public hearing comments, followed by responses, is also provided.

3.2 RESPONSES TO TOPICAL ISSUES

A number of the comments received during the public review process addressed the same issues. To avoid repetitiveness in the responses to these comments, topical responses have been prepared to address these common concerns. Topical responses are provided below for the following issues:

Topical Response 1: Housing Demand and Affordability

Topical Response 2: Land Use Planning at the UCLA Campus

Topical Response 3: Stipulated Agreement of Compromise

Topical Response 4: Proposed Housing Project at the UNEX Site

Topical Response 5: Parking and Trip Generation

Topical Response 6: Metro Purple Line Subway Extension

TOPICAL RESPONSE 1: HOUSING DEMAND AND AFFORDABILITY

Various comments were received that either questioned the need for additional housing on campus, or indicated that more housing, affordable to students, is needed. Representative comments include:

- "And you want to build 7,000 units. What do you think is going to happen to other property owners in the area? The private housing providers; what's going to happen to them? Everybody's rents will plummet."
- "How affordable is UCLA, what they charge? They're not giving it away."
- "…I sympathize with students who are going to be here for four to six years to want to have more housing, but that's a desire, not a need."
- "It's very difficult to find housing at a price that's reasonable on graduate student loans. And so, I support any project that increases the supply of housing in this neighborhood."
- "We need housing that's affordable; we need housing that's accessible; we need housing that can address the needs to students not just of today or tomorrow, but …2020, 2040, 2050."

Note that comments suggesting that UCLA should consider options that involve private sector housing are addressed under 2, below.

The first four on-campus housing residence halls (Dykstra, Sproul, Rieber, and Hedrick) were constructed between 1959 and 1964 and designed to house 3,182 undergraduate students. In 1959, the undergraduate enrollment was 11,391; thus the new housing accommodated approximately 28 percent of the undergraduate students. Since 1959, the campus has taken numerous actions over the last 58 years to keep up with student enrollment growth, including the development of student housing. The goal to also make University housing affordable has been, and remains, a critical component.

Currently, the undergraduate and graduate enrollment in 2017 is 44,947 students (31,002 undergraduate students and 13,025 graduate students). Through the on-going development of on-campus student housing and off-campus acquisitions, UCLA is currently only able to accommodate approximately 14,700 undergraduate students and approximately 3,400 graduate students in on-campus housing and University-owned apartments within 5-miles of the campus. Therefore, only 48 percent of the undergraduate and 24 percent of the graduate populations are in University-owned housing. Collectively, of the enrolled 44,947 students, UCLA is housing 18,100, which is 40 percent of the student body.

As described above, there remains a significant gap between the number of students and the available inventory of on- or off-campus University housing. That leaves the remaining students to find privately-owned housing in an already tight housing market in nearby Los Angeles communities. This competitive housing market has become unaffordable for the vast majority of undergraduate students. According to a market rent survey completed for the campus by CBRE in January 2017[1], University-owned apartments are 21.9 percent below the mean rate in the private market of Westwood. For example, students are currently paying approximately $900 per month for a bed in a University-owned two-bedroom apartment compared to $1,200 a month for a bed in a similar two-bedroom apartment in the private sector.

[1] CBRE, 2017 (January). *Market Rent Survey, UCLA Apartments- North Westwood Area*.

The same study indicates that the vacancy rate in private sector apartments is approximately 2.8 percent. Current trends indicate the private sector will increase rental rates between four to seven percent annually for the next few years, while the UCLA Student Housing Master Plan 2016-2026 anticipates undergraduate rental rate increases to be limited to no more than three percent for the next five to ten years.

In addition to consistently offering lower cost rents, the University can provide amenities that the private sector cannot, including:

- Nine-month apartment contracts per person (undergraduate), allowing students to operate individually and not be held accountable for roommate actions.
- Direct contracting with the student, without the need for a co-signor, and no security deposit is needed to secure a bed. This is favorable to students who have yet to establish credit or are from international countries. Also, students are not subject to a credit check application process.
- Fully furnished apartments. University-owned apartments come fully furnished and include appliances. This amenity means that University properties are clean and free of the typical abandoned furniture and mattresses that litter the parkways and sidewalks outside of private housing when students move out.
- Housing payment options and schedules that align with a student's financial aid schedule and loan disbursements.
- All-inclusive utilities (trash, water, cable, and Internet) with the University contract and 24-hour maintenance services.

Another benefit of University housing is related to higher graduation rates versus those students who commute. During the Fall quarters of 2011 and 2012, approximately two-thirds of students continued to live on-campus into their second year. Comparing those who lived on-campus with those who commuted in their second year, 78 percent of on-campus residents in the Fall 2011 cohort, compared to 68 percent of commuters, graduated in four years. The difference increased during the Fall 2012 cohort, where 81 percent of residents, compared to 68 percent of commuters, graduated in four years.

As described above, the UCLA campus has invested significant resources into providing affordable student housing. Through development of an additional 6,900 beds, the campus would continue to provide affordable housing below the Westwood market rates. However, even if the campus builds all 6,900 beds, there would still be approximately 45-50 percent (or approximately 20,000 to 25,000) of the student body that would need to be housed in non-University rentals.

Affordability also relates to whether a project can be developed for a reasonable cost. Specific to the UNEX site, the design of a high-rise facility is proposed because it allows for more beds to be developed on a small site (approximately 1.0 acre), which lowers the cost to develop each bed. Savings on construction costs enable the campus to stay committed to providing affordable housing for the students.

TOPICAL RESPONSE 2: LAND USE PLANNING AT THE UCLA CAMPUS

Various comments were received regarding previous land use decisions that have been made for the UCLA campus; requesting that UCLA to prepare an updated Long Range Development Plan; and that UCLA should consider partnerships with off campus private property owners for the provision of student housing. Representative comments include:

- "If UCLA is so concerned about its lack of developable land, why did it develop the following recent projects instead of using those areas for housing?

  (i) Luskin Conference Center, constructed in 2016 (294,000 sq. ft.);

  (ii) Wasserman Football Center, constructed in 2017 (75,000 sq. ft.); and

  (iii) Mo Austin Basketball Center, constructed in 2017 (35,000 sq. ft.)."

- "Another set of unilateral discretionary decisions involve decisions to devote scarce real estate resources to non-housing, non-classroom/lab uses, such as the Luskin Conference Center, elite athletic facilities for basketball and football players, and a junior high and high school on campus property."
- "...we also call upon the University of California Office of the President and The Regents to prepare, circulate, and certify a new, updated, and comprehensive UCLA Long Range Development Plan…".
- "…we call on UCLA to circulate a new and updated holistic Long Range Development Plan in an orderly fashion that allows for community and stakeholder input."
- "A plausible solution to providing additional student housing would be for UCLA to engage in a partnership with private housing suppliers in the west and northwest Village areas. Underdeveloped properties in this area could be developed with greater density to provide affordable housing if the City of Los Angeles would lift the onerous restrictions on development in this apartment-rich neighborhood. UCLA could use it considerable clout and prestige with municipal leaders to create a specific plan for this area that accommodates and incentivizes the construction of affordable, privately-owned student-centric housing."

There were also comments received regarding the consistency of the proposed structure at the UNEX site, and primarily the proposed high-rise building, with local regulations including the City's Westwood Village Specific Plan[2] and North Westwood Village Specific Plan[3]. This issue is addressed under Topical Response 4, below.

Development of Athletic Facilities, Conference Center and Geffen Academy at UCLA

In response to comments received about previous land use decisions made for development on campus, information regarding the purpose and need for the recently completed on campus athletic facilities, Luskin Conference Center and Geffen Academy at UCLA is provided below. Contrary to assertions made by the commenter, UCLA's land use decisions are consistent with its mission "to offer teaching, research, and service programs of the highest quality to serve the needs of the Los Angeles region, the State of California, and the nation."

Athletic Facilities

Both historically and presently, the campus values the provision of recreation and sport activities for the students, staff, and faculty of the campus and believes that health, fitness, and mindfulness

2 City of Los Angeles (1989). Westwood Village Specific Plan (as amended October 6, 2004).
3 City of Los Angeles (1988). North Westwood Village Specific Plan.

of our students, is an equal component of the University's mission of education, research, and public service. Athletic and recreational facilities have been included in UCLA's campus development plans since the establishment of the campus, and play an important role in recruiting and retention of students, academics and other employees.

Initially known as the Southern Branch of the University of California, UCLA was established in 1919 to the west of downtown Los Angeles on Vermont Avenue. Consisting of only 25 acres, the campus included educational buildings, on-campus housing, and recreational/sporting facilities; the latter included tennis courts and a football stadium. By 1923, the enrollment at the campus quickly outgrew the small campus, prompting a search for a permanent location. After consideration of over 100 sites, the Westwood location in Los Angeles was selected by The Regents in March 1925. The Regents hired George Kelham to prepare the site plan for the new University of California, Los Angeles campus. His 1926 plan included academic and residential buildings along with 36 tennis courts and a football stadium.

In the campus' first Long Range Development Plan (1963 LRDP), the vision was to have the Residential (Northwest zone) and Academic (Core zone) areas flanking the Recreation zone in the center of the campus. This Recreation zone extended from Sunset Boulevard to Le Conte, and from Westwood Plaza to Gayley Avenue; and was already developed with men's and women's gymnasiums (currently named Student Activity Center and Kaufman Hall, respectively), a Track and Field venue, a football field, Intramural field, and 10 tennis courts. The new Memorial Activities Center (to be named Pauley Pavilion) and Sunset Canyon Recreation Center had both been approved and would be completed in 1965. Pauley Pavilion would provide for basketball, gymnastics, volleyball practice and competitions, while Sunset Canyon Recreation Center would have tennis courts, swimming pools, and passive recreation.

Since that first LRDP, the campus has continued to develop recreational and athletic facilities; most recently, the Mo Ostin Basketball Practice Center and the Wasserman Football Center. For the Basketball Practice Center, the facility was needed to provide a dedicated practice and training facility on par with competitor schools. It also supports the recruitment and retention of outstanding student-athletes and coaches at UCLA while enabling athletic improvement needed for the student-athletes on both the men's and women's team to compete at the national level each year. Development of the Wasserman Football Center was needed to provide the Department of Intercollegiate Athletics with a state-of-the-art, single facility for training student-athletes in the football program at UCLA and to remain competitive with peer programs. The building has allowed for the consolidation of existing athletic training programs in a facility designed and equipped for the specific requirements of football.

There is also a direct nexus between athletics and education where each year, UCLA awards the equivalent of approximately 285 full athletic scholarships to outstanding student athletes. The scholarships are used by the UCLA Department of Intercollegiate Athletics to pay 100 percent of the students' tuition, fees, room, and board. Without these scholarships, many smart and talented students would not be able to afford to attend UCLA. Further, recreation benefits the broader campus community who partake in our programs in extraordinary numbers at multiple levels, as illustrated by the number of entries to each facility/program during the 2016/2017 academic year:

1. John Wooden Center entries/year– 1,189,061;
2. BruinFit (located in Sproul Residence Hall) entries/year: 390,304; and
3. Intramural Sports participants: 14,000/year[4].

[4] All recreation number are for the 2016-2017 academic school year. (UCLA Recreation, 2017)

For these reasons, development of new athletic and recreational facilities has an equal priority to use of our limited land resources as does housing or academics. Recreation and sports have been a part of UCLA since 1919 and we remain committed to providing these programs.

Luskin Conference Center

The Luskin Conference Center allows faculty, researchers, and students to exchange ideas and elevate debate on society's greatest challenges with scholars from around the world, civic leaders, and the general public. The facility supports UCLA's academic mission to foster the scholarly exchange of ideas; enhance the image of the campus as one of the world's great research universities; and allows UCLA to compete with other top tier institutions for major academic conferences. It also fills a demand by faculty for additional and more modern conference space on campus that includes state-of-the-art audio visual, internet, telephone, video conferencing, and simultaneous translation capabilities.

By providing the campus with a venue for hosting conferences and sponsoring events at the local, national, and international levels, the Luskin Conference Center enriches the intellectual life of the campus consistent with the principles of UCLA's Academic Strategic Plan. The Plan articulates four principles in support of the academic enterprise—academic excellence, civic engagement, diversity of academic inquiry, and financial security—that are commensurate with the needs of a leading public research university in the 21st century. Further, the Luskin Conference Center helps the campus build a stronger base with its alumni, non-resident students and their parents, and medical center/hospital guests who want to stay on campus when they visit.

As described above, the Luskin Conference Center supports the academic mission of the campus and its development has a direct benefit to faculty and students through a $10 million endowment that supports academic departments in hosting conferences and $50 million to support programs at the School of Public Affairs. Thus, the Luskin Conference Center is critical part of a comprehensive initiative to enhance the overall academic quality and reputation of the UCLA campus.

Geffen Academy at UCLA

In early 2013, UCLA initiated consideration of an innovative, on-campus college preparatory school for 6th through 12th grade students to advance UCLA's mission of research, teaching, and service by offering an alternative 6th through 12th grade education in line with UCLA's founding a "model school" and moving away from the standard agrarian model of education. The school will enable UCLA to recruit and retain top UCLA faculty; and provide hands-on teaching and educational opportunities for UCLA's undergraduate and graduate students, in support of the Academy's faculty. Further, the faculty and staff at the school will join in the ongoing collaboration that already occurs between an existing network of partner schools, including the UCLA Lab School, the UCLA Community School, four public schools near campus, and the Graduate School of Education and Information Studies (GSEIS) that expands educational opportunities for students, faculty, and families. The GSEIS is the conduit for the collaboration of ideas, teaching methodologies, and data sharing between the partner schools. As a college preparatory program, the students at the Geffen Academy at UCLA will have access to learning opportunities and classes provided by UCLA and UCLA facilities, which are beyond those offered by more traditional secondary schools.

Private Sector Housing Alternative

Some commenters suggested that UCLA consider addressing the housing demand by developing partnerships with private property owners, and working with the City of Los Angeles to establish

less restrictive development standards in the areas surrounding the campus (e.g., parking requirements, building height restrictions), which would allow the private sector to develop additional housing. In the LRDP Amendment Draft SEIR (Section 5.0, Alternatives to the Proposed Project), the University considered and analyzed a range of alternatives consistent with CEQA Guidelines Section 15126.6. Alternatives considered and rejected from further consideration include off-campus site or sites; on-campus site or sites; and a non-residential land use program. These categories cover alternatives that were suggested during the Draft SEIR scoping process and the rationale for why each alternative was not selected for a detailed analysis as a feasible alternative is provided.

Draft SEIR Section 5.3.1, Alternative Off-Campus Site or Sites, specifically considered the possibility to meet student housing and support services needs by developing sites off-campus, in the community surrounding the UCLA campus. This analysis noted that the cost of off-campus land acquisition for UCLA to build off campus housing would likely make the housing unaffordable. Moreover, off-campus housing would not meet a number of essential Project objectives because it would be physically separated from on-campus housing and housing support facilities, and would not take advantage of programmatic synergies with existing on-campus facilities and programs, as detailed on Draft SEIR Page 5-4. The Draft SEIR also noted off-campus housing would not reduce or avoid the Project's significant and unavoidable environmental impacts, and could result in greater traffic and traffic-related impacts, such as air quality and greenhouse gas emissions. Accordingly, the proposed off-site housing alternative was not carried forward in the Draft SEIR because that alternative would not be economically feasible, meet critical project objectives, or reduce significant environmental impacts, and could result in additional significant impacts. With respect to an off-campus alternative involving a private sector entity, and housing projects similar to those currently proposed on campus, with the exception of the cost for land acquisition (presuming the suggested alternatives involve use of private property already owned by an entity that would "partner" with UCLA), the reasons for not carrying forward an off-campus alternatives would still be applicable.

UCLA is not isolated from Westwood community and the campus and its students are major stakeholders with every interest in it thriving. As discussed under Topical Response 1, even if UCLA builds all 6,900 beds included as part of the proposed Project, there would still be approximately 45-50 percent of the student body that would need to be housed in non-University housing. However, land use planning decisions regarding private sector housing would require discretionary actions by the City of Los Angeles, as UCLA does not have jurisdiction over land use decisions or entitlement approvals for projects on privately-owned, non-University land in the City of Los Angeles. As described in Section 4.9, Land Use and Planning, of the Draft SEIR, the University of California, and its 10 campuses, are not subject to local jurisdictions for land use, zoning, ordinances, General Plans, or Specific Plans. Development of privately-owned land in the City of Los Angeles is subject to the development standards, and other regulations established by the City's General Plan and associated Community Plans and Specific Plans and the City's zoning code. Specific to the Westwood area, as identified in the Draft SEIR, UCLA and surrounding private properties are within the Westwood Community Plan area; the Westwood Community Plan was last updated in 1999. Specific Plans affecting the Westwood Community Plan area immediately adjacent to UCLA include the North Westwood Village Specific Plan (adopted in 1988), Westwood Village Specific Plan (adopted in 1989), and Westwood Community Multi-Family (adopted in 1988). These Specific Plans have been subject to various amendments but the overall development standards, or "rules" for the design and density of development within Specific Plan areas remain in effect.

UCLA is fully aware of development restrictions of the Specific Plans in the Westwood area especially in light of the attractiveness of the Westwood area for its students who do not want to live on campus; the proximity of this residential rental market for any number of people employed

by the campus or those who work in the general vicinity; and the pending transformation of the area by the Metro Purple Line subway station. Private property owners who have an interest in making changes to the Westwood area's Specific Plans should take these issues to either the Westwood Neighborhood Council or the Westwood Community Council. The mission of both councils can be summarized in that they intend to provide an inclusive and open forum for public discussion of issues of interest to their stakeholders; advise the City on issues of interest to the councils, including City governance; and facilitate communication between the City and Community Stakeholders. To the extent that UCLA can contribute to positive change in the Westwood community, UCLA welcomes opportunities to do so.

In summary, to provide additional needed affordable housing for UCLA students, and to meet other project objectives outlined in Section 3.2 of the Draft SEIR, UCLA is currently proposing additional on-campus housing. This does not preclude existing or future efforts for increased private development in the area to further meet the existing demand for housing.

UCLA Long Range Development Plan

An LRDP may be amended at any time, and is in effect until a new LRDP replaces it. Therefore, the proposed Project involves an LRDP amendment to add 1.5 million gsf for the proposed housing projects. Preparation of a new LRDP is not necessary or required for the proposed Project because, with the exception of the increase in square footage, for which an amendment is proposed, the proposed Project is consistent with the current LRDP, as analyzed in detail on pages 4.9-15 to 4.9-23 of the Draft SEIR. Notably, Table 4.9-2 provides a specific comparison demonstrating that the proposed Project is consistent with each relevant development objectives of the current LRDP. The proposed Project does not require creation of any new campus land use zones, or alter the boundaries of the existing land use zones in the current LRDP. However, comments suggesting that UCLA should be prepare a new LRDP are noted and will be forwarded for consideration to the decision makers.

Pursuant to CEQA (California Public Resources Code [PRC] Section 21080.09), the UC campuses shall prepare Long Range Development Plans (LRDPs) to meet the academic and institutional objectives for each campus. An LRDP is a comprehensive plan that guides physical development such as the location of buildings, open space, circulation, and other land uses. The Regents have approved various LRDPs for the UCLA campus; the latest LRDPs were prepared in 1983, 1990, and 2002. The 1990 LRDP established eight campus land use zones distinguished by their geography and primary use. With minor exceptions, these land use zones remain in place today. Given the limited area of developable area remaining on campus, the overall development patterns previously established and implemented are not expected to change. As identified in Section 4.9, Land Use and Planning of the Draft SEIR, the current/existing UCLA Long Range Development Plan (LRDP) (Existing LRDP) is the 2002 LRDP, as amended in March 2009.

An EIR must be prepared to evaluate the environmental impacts of an LRDP, including the environmental effects related to changes in enrollment levels. As required, EIRs were prepared and certified by The Regents for the 1983, 1990, and 2002 LRDPs, and the amendment to the 2002 LRDP that was approved in March 2009. The 1983, 1990 and 2002 LRDP included increases in enrollment, which was addressed in the respective EIRs. In addition, UC system-wide enrollment increases approved by the UC President and The Regents in November 2015 were addressed in the Geffen Academy at UCLA Final EIR (SCH No. 2016021050) certified by The Regents in August 2016. These documents are available for review at the UCLA Capital Programs office.

TOPICAL RESPONSE 3: STIPULATED AGREEMENT OF COMPROMISE

Comments were received regarding the proposed housing project at the Lot 15 site in relation to the existing Stipulated Agreement of Compromise and Order (Agreement) that was entered by the Los Angeles Superior Court, February 6, 1978, resolving litigation filed by the Westwood Hills Property Owners Association against The Regents (Los Angeles Superior Court Case No. C180760). This Agreement is also referred to in the comments as the "Stipulated Use Agreement" or "Benign Use Agreement". Representative comments include:

- "UCLA is proposing to build 1,800 beds at the Lot 15 Site. The Stipulated Agreement that was entered into by UCLA and the WHPOA reserved the Lot 15 Site for "benign" uses. It is clear that the construction of 1,800 beds in 8 and 9 story structures is not "benign". However, UCLA argues that the construction is permitted because the Stipulated Agreement provides that the use restriction remains in effect until "there has been a substantial change of circumstances within the University as to warrant a modification" (see page 4.9-27 of the DSEIR). UCLA argues that UCLA has developed more facilities and dorms since 1978 and this constitutes a change of circumstances warranting a modification of the Stipulated Agreement…"
- "…UCLA argues that it complied with the provisions of the Stipulated Agreement requiring that UCLA "address community relations procedures through meetings with the campus' surrounding communities and property owners."
- "Given the University's claim of a "substantial change in circumstances" as the basis for violating the 1978 Stipulated Agreement of Compromise and Order with the Westwood Hills Property Owners Association…"
- "The matters offered as justification of changed circumstances (pp. 4.9-27 et seq.) do not constitute a legally sufficient change of circumstances as required under the terms of the Stipulated Agreement, because they are the result of unilateral discretionary decisions by the Regents and/or UC and ULCA administrators, essentially they are self-induced hardships."
- "Is it fair to assume that The Regents did not intend land in this Stipulated Agreement area to be used for housing, since housing is excluded from a list of allowable uses. In fact, since 1978, no residential uses have been developed there and recreational uses are extremely limited, consisting of six unlighted tennis courts and a practice area for the golf team. In fact, this Stipulated Agreement area uses are entirely separate and distinct from those specified for the Northwest Campus zone. The 2017 LRDP amendment should recognize this reality by removing the Stipulated Agreement zone from the Northwest Campus zone and renaming it the Low Impact Zone or the Stipulated Agreement Zone."
- "…one of the biggest flaws of this process is the fact that UCLA is ignoring the stipulated agreement, violating it, and moving forward…"

The litigation leading to the Agreement related to the then-proposed Residential Suite Complex and Related Parking Project (now referred to as the Hitch and Saxon Residential Suites) and is relevant only to development in a specifically defined area[5] in the Northwest zone (referred to as the "benign use area"), which is shown on Figure 4.9-1, Existing Land Uses and Campus Zones, of the Draft SEIR. Per the Agreement, this area will be reserved for benign use that includes, but is not limited to (1) open green space; (2) landscape buffer zones; (3) existing ornamental

[5] The land covered by the Order is bordered by Veteran Avenue on the west side of campus; by Sunset Boulevard to Bellagio Road on the north; by Bellagio Road and De Neve Drive and the line running south to Gayley Avenue from the intersection of De Neve Drive to then existing Lot 13 on the east; and on the south by Gayley Avenue west to Veteran Avenue.

horticultural buildings and parking facilities; and (4) low-intensity, non-spectator, recreational and athletic space. The description of "benign use" excludes, among other things, consideration of a baseball facility in this area. It also identifies that lighting for this area will be provided only as appropriate to, and in keeping with, the benign uses, and no access to the campus from existing City streets adjacent to the benign use zone will be provided or permitted except for emergency purposes. The Agreement requires the use restriction to remain in effect "unless and until there has been a substantial change of circumstances within the University as to warrant a modification of the use of that portion of the UCLA campus. Any such determination shall include consideration of conditions within the surrounding community, and such determination would be considered by the Regents only after there has been appropriate consultation with the community, including provisions for personal appearance by a community representative before the Board of Regents or its committees."

With respect to the five proposed housing sites, the Lot 15 site is the only proposed housing site within the identified benign use zone and subject to the provisions of the Agreement. Further, the only parties signatory to the Agreement, or otherwise subject to the provisions outlined in the Agreement, are The Regents of the University of California and the Westwood Hills Property Owners Association (WHPOA). The Agreement does not provide that other community associations, neighborhoods, or individuals have standing to interpret or otherwise enforce the Agreement. It should be noted that, as identified in the Draft SEIR, the provision in the Agreement for UCLA campus to review existing community relations arrangements was previously complied with and should not be interpreted as a requirement applicable to the currently proposed Project. As discussed in Section 1.3 of this Final EIR, public outreach to the surrounding community has been conducted pursuant to CEQA requirements for the proposed Project.

As identified in the Draft SEIR, the University had five meetings with the WHPOA regarding the proposed development of Lot 15 prior to release of the Draft SEIR for public review (up to August 24, 2017). Subsequently, there were three more meetings on September 19, October 6 and November 6, 2017. Additionally, pursuant to the Agreement, UCLA organized a "personal appearance before the Regents or its committee" for WHPOA that was to be held on October 18, 2017; WHPOA unilaterally determined to not appear at that scheduled meeting. As discussed below, through these coordination efforts, UCLA and WHPOA are working on a proposed agreement to modify the Stipulated Agreement. This proposed agreement would acknowledge that the WHPOA would agree to the exclusion of the Lot 15 site from the benign use area, as defined under the Stipulated Agreement. However, as of completion of this Final SEIR, this separate agreement has not been executed by the parties. Therefore, in the event that this separate agreement cannot be executed prior to the Regents Meeting, where the campus shall present this LRDP Amendment Final SEIR for certification by The Regents, then the Regents shall be requested to take action to amend the Stipulated Agreement to exclude the Lot 15 site from the benign use area. If necessary, The Regents will consider the proposed amendment of the Agreement in conjunction with approving the proposed Project, including design approval for the Lot 15 site development.

Should The Regents be required to take action to amend the Stipulated Agreement, they would need to consider that a "change in circumstances" has occurred and that it warrants a modification of the use in the designated benign use area (i.e., the development of proposed undergraduate housing). Because of the Agreement and creation of the benign use area in 1978, the campus has made numerous land use decisions to place student housing on other sites in order to avoid amendments to the Agreement. The extensive changes in circumstances that have occurred since the Agreement was executed in 1978 are detailed in the Draft SEIR (starting on page 4.9-27). While the Draft SEIR addresses how the proposed housing project at the Lot 15 site relates to the provisions of the Agreement, the "change in circumstances" since the Agreement was executed is not the basis for any physical impact analysis in the Draft SEIR.

Rather, in accordance with Section 15125 of the State CEQA Guidelines, the SEIR includes a description of the existing physical environmental conditions to provide the "baseline condition" against which project-related impacts are compared. The current environmental conditions on campus include existing development that has been approved and subject to previous environmental documentation and public review.

In conclusion, if a separate agreement cannot be reached between the campus and WHPOA prior to the January 2018 Regents Meeting, then the campus shall request that The Regents take action to amend the Stipulated Agreement to exclude the Lot 15 site from the benign use area. Approval of the proposed Projects, as described in the SEIR, does not violate the Stipulated Agreement and the provisions of the agreement remain in effect for the land that remains within the benign use area. It should also be noted that regardless of the action taken relative to the Stipulated Agreement, the physical environmental impacts resulting from implementation of the proposed housing project at the Lot 15 site would be the same, as analyzed in the SEIR. Execution of a separate agreement with the WHPOA regarding development of the Lot 15 site, and removal of this site from the designated benign use area, would not result in any new or more severe impacts.

TOPICAL RESPONSE 4: PROPOSED HOUSING PROJECT AT THE UNEX SITE

There were a number of comments received regarding the proposed housing project at the University Extension (UNEX) site. The comments received primarily address the following issues, which are discussed individually below:

- Impacts to Historic Resources
- Aesthetic/Visual Impacts and Land Use Compatibility
- Compliance with City Regulations
- Emergency access to hospital and pedestrian conflicts

Impacts to Historic Resources

UCLA received several comment letters that raise concerns about the potential impact of the proposed student housing project for the University Extension (UNEX) site on the Fox Village Theatre (also known as the Fox Westwood Village Theater) in Westwood. The theatre is located approximately one block to the southeast of the UNEX site. It has been listed as a City of Los Angeles Historic-Cultural Monument (HCM No. 362) since 1988 and was determined eligible for listing in the National Register of Historic Places through a Section 106 consultation process in 1994. It is considered a historic resource under the California Environmental Quality Act (CEQA). Representative comments include:

- "…the UNEX building is minimally visible at this time from the epicenter of Westwood Village at the intersection of Weyburn Ave. and Brockton Ave. However, the proposed UNEX Development will be taller, more prominent and likely obscure the landmark view of the Fox Theater tower."
- "Additionally, the construction of a massive 20-story, 202-foot-tall dormitory high rise tower would obliterate the "focal view" of the iconic 170-foot spire of the landmark Fox Westwood Village Theater, a recognized historic resource, when set against the much taller and bulkier high-rise dorm structure proposed for the UNEX site (which is just 315 feet from the Fox Theater)."
- "What will the significant aesthetic impact of the 200 feet high UNEX project have on the Westwood Village historic landmark, the Fox theater tower, have, especially when viewed from the Westwood Gateway, the intersection of Westwood and Wilshire Boulevards?

As previously discussed in Section 2.2 of this Final SEIR, the proposed housing project at the UNEX site as addressed in the Draft SEIR involved demolition of the existing University Extension building and construction of a new housing building for undergraduate housing. The original building included a 9-level mid-rise structure and a 20-level structure (approximately 350,000 gross square feet with up to 1,350 beds). The building designs are intended to take cues from the surrounding neighborhood, which include the commercial and residential areas of Westwood Village, as well as the UCLA campus. Since the release of the Draft SEIR, UCLA has revised the high-rise component of the building, which will now be 17 levels, with 1,159 beds and approximately 301,900 gsf. The current renderings and views from various vantage points presented in Section 2.2.3 of this Final SEIR were used for the following review of the Fox Village Theater conducted by Page and Turnbull[6].

Located at the 959 S. Broxton Avenue at the northwest corner of Broxton and Weyburn avenues, the Fox Village Theatre is a 1931 Spanish Colonial Revival-style move theater built by the Janss Corporation, which developed Westwood Village. The building includes a rectangular theater auditorium that is surrounded on two sides by retail stores along Broxton and Weyburn. A tall tower and entrance courtyard define the building at the corner. The tower is a tapered cylindrical shape topped by a spire and illuminated sign.

The HCM nomination, which is primarily the historic resource inventory form completed by Johnson Heumann in 1985 as part of a historical resources reconnaissance survey, identifies the Fox Village Theatre as the premiere movie palace in Westwood Village. It was the predominant entertainment facility during the Village's formative years and one of the most important flagship theatres in the Fox West Coast theatre chain. The nomination said deed restrictions prevented building of other theatres in the area, but by 1937, another movie theatre, the Fox Bruin Theatre, had been constructed across the street at 926 S. Broxton Avenue.

The HCM nomination noted the Fox Village Theatre's tower as "[A] soaring tower, Westwood's tallest, and a beacon to moviegoers in the community," and said "[I]ts tower, courtyard entrance, and overall decoration served as a focal point in the north Village."

The tower of the Fox Village Theatre is a distinctive, character-defining feature of the historic building. In terms of CEQA, the evaluation of impact on views of a historic resource can be evaluated in two sections. One is as an impact under Aesthetics and Visual Resources and other is as an indirect impact to a historic resource under the Cultural Resources section.

Aesthetics and Visual Resources

As identified in Section 4.1, Aesthetics, of the Draft SEIR, Appendix G of the CEQA Guidelines provides several questions concerning potentially significant adverse environmental impacts related to aesthetics. Only one of those questions specifically addresses historic buildings: Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state highway?

As discussed under the evaluation of Threshold 1.2 in the Draft SEIR (page 4,1-15), the Fox Village Theatre is not in a recognized state scenic highway, and the closest local scenic roadway is the nearby Wilshire Westwood Scenic Corridor, which is a section of Wilshire Boulevard regulated by a Specific Plan enacted by the City of Los Angeles. Its boundaries are Wilshire Boulevard and the lots directly along the street starting from several lots east of Glendon Avenue to Comstock Avenue and the Los Angeles Country Club. The Wilshire Westwood Scenic Corridor Specific Plan outlines requirements for development along this stretch of Wilshire Boulevard. The

[6] Page & Turnbull, Inc. 2017 (December 5). *Responses to LRDP SEIR Comments on Historic Preservation*. Los Angeles, CA: Page & Turnbull, Inc.

Fox Village Theatre is not bound by this Specific Plan, and none of the intersections mentioned in the comments on the Draft SEIR are within the Specific Plan area. Therefore, as concluded in the Draft SEIR, the proposed housing project at the UNEX site would not damage a scenic resource (including a historic building) within a state scenic highway.

Another checklist question addresses where a project "would have a substantial adverse effect on a "scenic vista". The Draft SEIR describes scenic vistas as including focal views that may be of visually important structures, such as historic buildings. The March 2009 LRDP Amendment Final EIR identified focal views on UCLA's campus of outdoor public art spaces and historic buildings located primarily in the historic core of the campus. The 2009 Final EIR listed Programs, Practices, and Procedures (PPs) and Mitigation Measures (MMs) to consider impacts to the identified on-campus focal views. The UNEX student housing project is not in the vicinity of the identified focal views from the 2009 Final EIR, and no PPs or MMs apply.

It should also be noted that while the HCM nomination for the Fox Village Theater recognizes that the tower is a focal point in Westwood Village, it does not identify a particular view or view corridor that contributes to the significance of the building. There are also no recognized views or view sheds identified in the Westwood Community Plan Update (1999), North Westwood Village Specific Plan (1989), or the Westwood Village Specific Plan (1989) with regard to the Fox Village Theatre tower. The Westwood Community Plan Update acknowledges the historic resources in Westwood Village and encourages their preservation, but the plan does not address the issue of views. It does recognize that the character of Westwood Village began to change after 1954 when the Janss Corporation sold its interests and subsequent higher density development impacted the Village's traditional uses.

As concluded in Section 4.1, Aesthetics, of the Draft SEIR, the proposed Project, including the proposed housing project at the UNEX site, would not have any significant visual or aesthetic impacts specifically related historic resources. Non-historic aesthetic/visual impacts are further discussed below.

Cultural Resources

The Draft SEIR (page 4.4-21) outlined the threshold for significant impacts to historic resource under CEQA. A project that causes a "substantial adverse change" to a historic resource may have a significant effect on the environment. Physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historic resource would be "materially impaired" constitutes a "substantial adverse change."

The significance of an historical resource is materially impaired when a project "demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance" and that justify or account for its inclusion in, or eligibility for inclusion in, the California Register. In other words, when a historic resource loses its integrity as a result of the project, it has been materially impaired. Integrity is the ability of a resource to convey its historic significance through its physical features and is defined as "the authenticity of property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic period."

The proposed Project, including the proposed building at the UNEX site, is not directly or physically impacting the Fox Village Theatre. However, it may have an indirect impact on how the tower is perceived as the current 17-level portion of the building will alter the surrounding setting by introducing a taller residential building where a mid-rise institutional building currently exists. Although it is not the tallest feature in Westwood Village, with other taller buildings constructed in the Village in the mid-20th to early 21st centuries (see Draft SEIR page 4.1-20), the Fox Village Theatre tower remains prominent at the northern end of the Village, as mentioned in the HCM

nomination. The visibility of the new UNEX building will somewhat affect the setting of the Fox Village Theatre and the dominance of its tower when seen from Wilshire and Westwood boulevards and, to a lesser extent, from Westwood Boulevard and Kinross Avenue, but the change will not affect the integrity of setting to such an extent as to "materially impair" the integrity of the Fox Village Theatre or its ability to convey its historic significance. The Fox Village Theatre will still be a historic resource that is architecturally and culturally significant as a historic movie theatre with a strong tower element.

In summation, the proposed new UNEX building will not have direct adverse impacts on known historic or scenic resources. It will alter the surrounding area, which may indirectly affect historic resources, but not to an extent of a significant adverse impact where the historic status of the Fox Village Theatre will be compromised.

Aesthetic/Visual Impacts and Land Use Compatibility

While many of the comments regarding the aesthetic or visual impacts associated with the proposed housing project at the UNEX site were related to the originally proposed 20-story high-rise tower, and its impacts to the setting of historic resources (as discussed above), there were also comments that addressed the aesthetic impacts resulting from the change in visual character at the site, and the compatibility of the proposed high-rise building with surrounding uses. Representative comments regarding potential visual/aesthetic impacts and land use compatibility issues associated with the proposed housing project at the UNEX site include:

- "…The claim of visual consistency is clearly rebutted by the image above of the massing projections for the UNEX Development. Furthermore, this towering monstrosity clearly degrades the visual environment of the area, as the neighboring properties are dwarfed…"
- "The North Village height limit is 45 feet. How does the 200 feet plus height of the UNEX project significantly affect the visual environmental impact on the immediate neighborhood and on the whole North Village?"
- "UCLA is also clearly disregarding its own Practices, Programs and Procedures with the proposed UNEX Development. PP 4.1-1(a) states that:

  > 'the design process shall evaluate and incorporate, where appropriate, factors including, but not necessarily limited to, building mass and form, building proportion, roof profile, architectural detail and fenestration, the texture, color, and quality of building materials, focal views, pedestrian and vehicular circulation and access, and the landscape setting to ensure preservation and enhancement of the visual character and quality of the campus and the surrounding area. Landscaped open space (including plazas, courts, gardens, walkways, and recreational areas) shall be integrated with development to encourage use through placement and design."

- "The EIR does not address the major deviation of the aesthetics of the dorm at the UNEX site versus the main campus and why it is appropriate to have the deviation. This is important to discuss, since the campus architect keeps tight control of the aesthetics of the buildings on campus, but in the bridge area of the campus has decided that aesthetic considerations can be disregarded and the Westwood Specific Plan and North Westwood Village Specific Plan height restrictions can be ignored. Twenty story buildings are out of place in this section of Westwood Village. Please discuss why of the aesthetics of the Westwood Village are being ignored?"
- "…all potentially significant environmental impacts of the proposed 20-story, 202-foot-high tower project at the UNEX site upon the "skyline view" of Westwood Village and

the Santa Monica Mountains, as well as on the "focal view" of the Fox Westwood Village Theater should have been analyzed in the DEIR."

With respect to aesthetic impacts, as discussed in Section 4.1, Aesthetics of the Draft SEIR, Governor Brown signed Senate Bill (SB) 743 in September 2013, which made several changes to the California Environmental Quality Act (CEQA) for projects located in areas served by transit (i.e., transit-oriented development or TOD). Specifically, Public Resources Code Section 21099[7], Subdivision (d)(1), provides that "Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment." This means that, effective January 1, 2014, aesthetics and parking will no longer be considered in determining if a project has the potential to result in significant environmental effects provided a project meets all of the following three criteria:

- The project is in a transit priority area; and
- The project is on an infill site; and
- The project is residential, mixed-use residential, or an employment center.

An "infill site" is a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from parcels that are developed with qualified urban uses. Pursuant to Section 21072 of the Public Resources Code, "qualified urban use" means any residential, commercial, public institutional, transit or transportation passenger facility, or retail use, or a combination of those. A "Transit Priority Area" is defined as an area that is within 0.5-mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in an adopted federal Transportation Improvement Program.

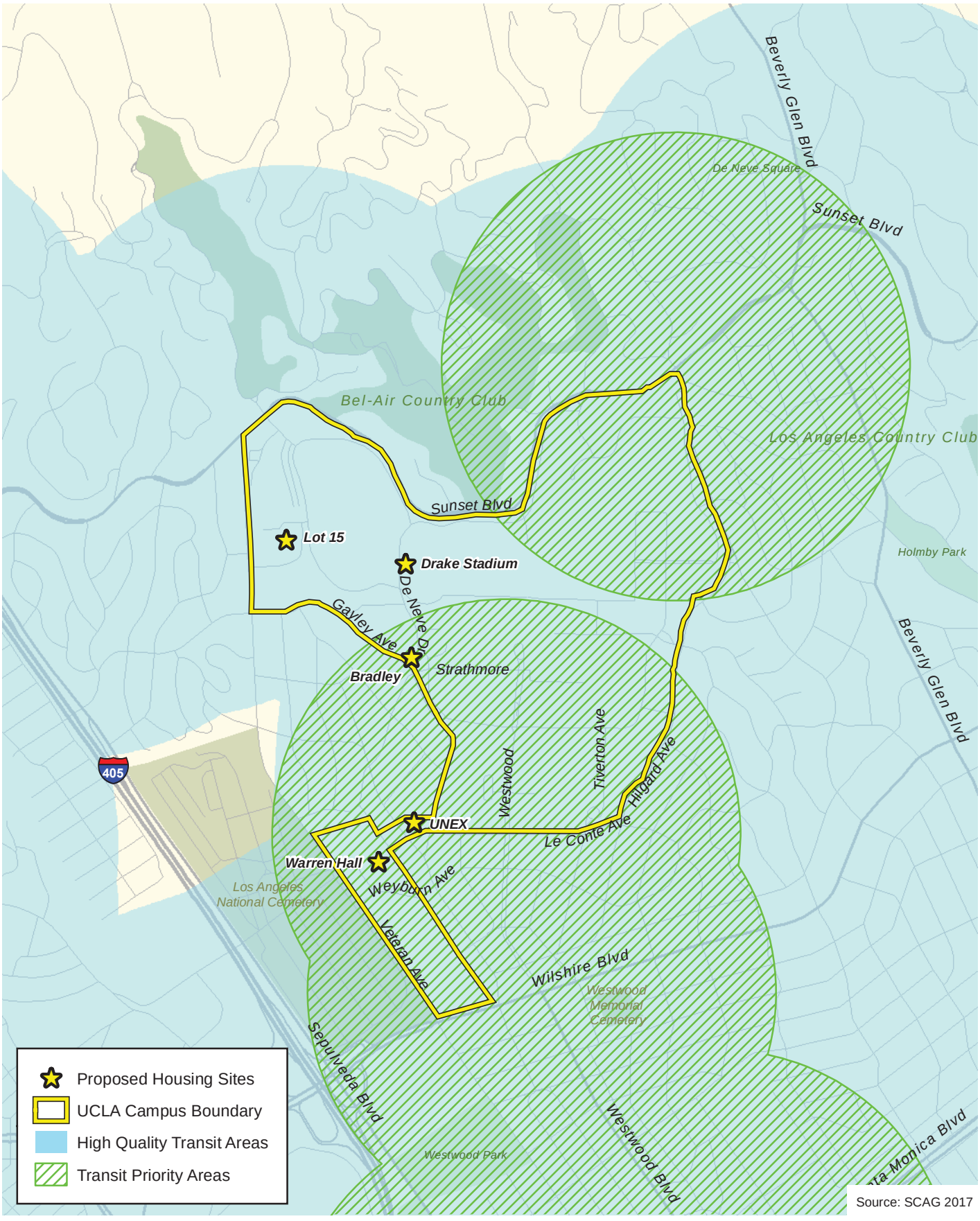
This approved change in CEQA provides relief for infill development near major transit stops, which serve to reduce vehicular miles traveled and associated greenhouse gas emissions, and promote non-vehicular modes of circulation. It should be noted that the provisions of SB 743 would also apply to any private development project in a Transit Priority Area being processed through the City of Los Angeles, including in Westwood Village. This is outlined in the City of Los Angeles Department of City Planning Zoning Information File (ZI) No. 2452, Transit Priority Areas (TPAs)/Exemptions to Aesthetics and Parking Within TPAs Pursuant to CEQA[8].

The UNEX site (and the Warren Hall and Bradley sites) meet the established criteria for determining that aesthetics impacts shall not be considered significant CEQA impacts of a project. Criterion 1 is met due to the residential nature of proposed development. Criterion 2 is met because these sites are considered infill sites and are located in a transit priority area (refer to attached Figure 4.9-3 of the Draft SEIR). It should also be noted that SB 743 specifically identifies that "aesthetic impacts do not include impacts on historical or cultural resources"; however, as discussed above, the visual changes resulting from the proposed housing project at the UNEX site would not result in impacts to a historic resource.

Notwithstanding the provision of SB 743, it is recognized that some discussion of visual changes and potential aesthetic impacts is of interest to the public and the decision makers. Therefore, the Draft SEIR included a detailed assessment of visual changes resulting from implementation of

[7] Incorrectly identified as Section 20199 in the Draft SEIR; this has been corrected in the Final SEIR (refer to Section 5, Clarifications and Revisions).

[8] City of Los Angeles Department of City Planning (accessed November 27, 2017). Zoning Information File (ZI) No. 2452, Transit Priority Areas (TPAs)/Exemptions to Aesthetics and Parking Within TPAs Pursuant to CEQA



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High Quality Transit and Transit Priority Areas

Figure 4.9-3

UCLA LRDP Amendment (2017) and Student Housing Projects

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the proposed housing projects, including the UNEX site. However, this information is not used for the purposes of determining environmental impacts under CEQA and its inclusion is not relevant to the determination of the adequacy of CEQA review.

The information presented in the Draft SEIR included representative site photographs from vantage points surrounding the project site. It is identified that due to the topography in the area, the mature trees and vegetation along the roadways, intervening development, and the alignment of the roadways in the area, the existing UNEX Building is increasingly less prominent or no longer visible beyond the vantage points where the photographs were taken. The analysis also relies on conceptual renderings of the proposed housing project from vantage points similar to those shown in the photographs.

There is also information provided about the elevation (above mean sea level [msl]) of the proposed structure at the UNEX site compared to other buildings in the Westwood Village area (refer to Table 4.1-3). The information provided focuses on building elevations, because the height of the proposed building is not specifically relevant for addressing the visual character of the proposed Project given the topographic variability in the area. Shorter structures at higher elevations can appear similar in height to taller buildings at lower elevations. Further, the representative building height (msl) information presented in Table 4.1-3 is not intended to represent all adjacent buildings, rather it demonstrates that the building elevations in the Westwood Village area vary. It is clearly identified in Table 4.1-3 that the originally proposed 20-story high-rise building at the UNEX site would have a building elevation higher than existing buildings included in the table, and similar to the existing high-rise building at 1100 Glendon Avenue. It should be noted that, as previously discussed in Section 2 of this Final SEIR, the proposed high-rise building at the UNEX site has been reduced to 17-stories, and would have a building elevation of 514 feet above msl at the top of parapet (532 feet above msl at the top of the elevator penthouse). The proposed 9-level building would have a building elevation of 437 feet above msl at the top of parapet.

The Westwood Village area does not have a single or common architectural theme but rather represents a combination of characteristics shaped by the individual building types that occur in the project area vicinity. There are a variety of building types, heights, shapes, sizes, colors, and materials. As further discussed below, the currently proposed housing structures at the UNEX site have been designed to reflect building materials, building height and other characteristics of the existing uses in the area and the UCLA campus. Therefore, even though aesthetics is not being considered in the determination of whether the Project has the potential to result in significant environmental effects, it is concluded that the proposed housing structures would not degrade the visual character of the UNEX site or its surroundings.

Comments received on the Draft SEIR assert that the vantage points from the intersections mentioned are valued views with regard to the Fox Village Theatre. Of the intersections mentioned, the Fox Village Theatre tower is most visible from:

- Wilshire and Westwood boulevards
- Westwood Boulevard and Kinross Avenue
- Broxton and Weyburn Avenues

The Fox Village Theater is somewhat visible from Westwood Boulevard and Ashton Avenue, which is south of Wilshire Boulevard, and from Glendon Avenue at Wilshire Boulevard, where the existing UNEX building is seen behind the Fox Village Theatre tower. The theatre tower does not appear to be visible from Glendon at Lindbrook Drive, Glendon at Kinross Avenue, or Gayley Avenue at Wilshire Boulevard. Assuming the five vantage points where the theatre tower is most

and somewhat visible are considered valued views, the proposed housing structure at the UNEX site would not obscure views of the theater's tower in part or in whole. The theatre's tower would remain visible from these points and from throughout Westwood Village.

The new housing structure at the UNEX site would be visible behind the Fox Village Theatre tower when looking north from these five points. The view from Wilshire and Westwood boulevards would change, as the new UNEX building would affect the prominence of the Fox Village Theatre's tower when seen from that vantage point; however, the theatre's tower would remain entirely in view and the impact does not rise to the level of affecting the Fox Village Theatre's historic status (see Cultural Resources discussion above).

Given the lower height, orientation on the lot, and distance between the project site and the Fox Village Theatre, the currently proposed 17-level building becomes less visible behind the theatre's tower at vantage points closer to the site. As such, the new building would be seen to the side and shorter than the theatre's tower from Westwood Boulevard at Kinross Avenue. While the view from this intersection would change, the Fox Village Theatre's tower would still be a highly prominent element. Likewise, at the corner of Broxton and Weyburn avenues, the theatre tower's would likely remain the dominant feature with the new building as part of the urban fabric.

With respect to potential impacts to views of the Santa Monica Mountains, there are no views of the mountains from vantage points surrounding the UNEX site, as demonstrated in the site photographs presented in Figure 4.1-4a of the Draft SEIR. Distant views from these vantage points and other vantage points in Westwood Village are obstructed by topography, mature landscaping and existing development. However, there are largely obstructed views of the mountain tops from certain vantage points, including a limited number of northbound roadways. The proposed structure at the UNEX site may further partially obstruct views of the mountaintops from certain views looking north; however, it would not lead to complete obstruction of a designated scenic view or vista and would be similar to existing viewsheds where temporary views of the mountaintops are obstructed. The proposed housing project at the UNEX site would not cause a substantial adverse effect on a scenic vista.

Therefore, even though aesthetics is not being considered in the determination of whether the Project has the potential to result in significant environmental effects, it is concluded that the proposed housing structures would not degrade the visual character of the UNEX site or its surroundings.

A number of the comments received regarding the design of the proposed housing project at the UNEX site, were in the context of the proposed high-rise building not being compatible with adjacent uses. It is asserted that the proposed high-rise building at the UNEX site is not consistent with March 2009 LRDP Amendment Final EIR Practices, Programs and Procedures (PPs) addressing compatibility, which are included in the Aesthetics and/or Land Use and Planning sections of the Draft SEIR (Sections 4.1 and 4.9, respectively). These PPs include:

PP 4.1-1(a) The design process shall evaluate and incorporate, where appropriate, factors including, but not necessarily limited to, building mass and form, building proportion, roof profile, architectural detail and fenestration, the texture, color, and quality of building materials, focal views, pedestrian and vehicular circulation and access, and the landscape setting to ensure preservation and enhancement of the visual character and quality of the campus and the surrounding area. Landscaped open space (including plazas, courts, gardens, walkways, and recreational areas) shall be integrated with development to encourage use through placement and design.

PP 4.8-1(a) Development of the south edge of the main campus shall be designed to enhance the campus interface with Westwood Village.

PP 4.8-1(d) New building projects shall be sited to ensure compatibility with existing uses and the height and massing of adjacent facilities.

With respect to PP 4.1-1(a) and PP 4.8-1(d), the proposed housing project at the UNEX site is located in the Bridge zone of the UCLA campus. It is an area that is influenced by the main campus to the northeast, the retail environment of Westwood Village to the southeast, and residential life to the east. It serves as both a link between the southwest and main campus as well as a gateway to the main campus. The proposed housing project at the UNEX site responds to its purpose as link and gateway in several ways.

The mass of the building is divided into two sections (a 9-story and a 17-story section). The lower 9-story building responds to the surrounding residential buildings along Levering Avenue that step up the hillside. It serves as the main entry and is positioned in front of the 17-story building to respond to the pedestrian scale and experience. The 17-story building takes its cues from the towers in Westwood Village. It is broken into three parts to establish a series of datums that respond to different scales. It is stepped at the 7th floor to reflect the adjacent residential buildings. It is stepped again at the 15th floor to establish the top of the main portion of the building and present an iconic gateway to the main campus. The top two floors then become more diminutive in expression and reduce the overall appearance of height.

The facade materials will be a combination of terra cotta panels at the lower portions of the building and cream-colored concrete panels for the main body of the 17-story building. The terra cotta panels are in the warm beige color family and are sized to respond to the pedestrian and residential experience. The terra cotta also references the terra cotta used at the entry to the main campus on Westwood Boulevard. The cream-colored concrete panels are larger to address the scale of the 17-story building when seen from afar. Together the terra cotta and cream-colored concrete provide a sophisticated palette that is a complement of the UCLA palette while being residential in character. It is also consistent with the color palette of the housing in the neighborhood, the on-campus housing, and other modern buildings on UCLA's campus.

The building is set back on the site in order to create a front entry garden along Le Conte Avenue. The pedestrian experience is enhanced by the entry garden as it engages the sidewalk along Le Conte and provides a place to pause and gather. Three large Erythrina trees respond to the scale of the building while providing color and shade along a winding path leading to the entry. The entry garden also provides an important connection point between the southwest and main campus - it defines a place of social interaction where people are encouraged to stop and enjoy the open space. The ground floor of the building is activated by student community spaces that look outward toward and enhance the social sidewalk life.

With respect to PP 4.8-1(a), the proposed housing project at the UNEX site enhances the campus interface with Westwood Village by addressing the variety of scales experienced in the village. There is a highly varied mix of low-rise retail, mid-rise housing and retail, and high-rise offices and private-sector housing. The massing of proposed building at the UNEX site address all of these scales, and the massings are further enhanced by the material palette, described above. The building would provide a density of student life that activates the sidewalks and brings vitality to the village while also inviting pedestrians into its entry garden. The current building does none of those things - it presents a wall to the village and to pedestrians.

Therefore, consistent with the conclusions of the Draft SEIR, the proposed housing project at the UNEX site is consistent with and incorporates PPs 4.1-1(a), 4.8-1(a), and PP 4.8-1(d).

Compliance with City Regulations

Comments were received from various individuals regarding the consistency of the proposed structure at the UNEX site, and primarily the proposed high-rise building, with local regulations including the City's Westwood Village Specific Plan and North Westwood Village Specific Plan. Representative comments regarding this issue include:

- "Please explain how a 20-story high-rise fits in to the Westwood Village Specific Plan and the maximum building height of 45 feet?"
- "Further, the construction of a 20-story, 202-foot-tall dormitory tower at that particular corner would have a significant negative environmental impact on not one, but two, special planning zones established by ordinance in the City of Los Angeles. Both the Westwood Village Specific Plan area, which immediately abuts the UNEX site to the south, as well as the North Westwood Village Specific Plan area (which actually includes the UNEX site), have height limits of 45 feet. Inexplicably, the DEIR utterly fails to properly evaluate the impact of constructing a 20-story, 202-foot-tall massive dormitory structure that would be highly incompatible with the essential low-rise to mid-rise character of these two special planning zones."
- "…it violates the principles of compatibility and coherent planning that underlie City Zoning for the parcel it will occupy."
- "What is the additional Los Angeles recreational park space requirement for this massive new residential project?"

As identified in Section 4.9, Land Use and Planning, of the Draft SEIR (refer to the discussion of Local Planning Programs on page 4.9-11 and 4.9-12), UCLA is part of the University of California, a constitutionally created entity of the State of California. The Regents have constitutional power to regulate, without legislative interference, the activities of the University except where the legislature passes a general statute under the state police power. Under Article IX Section 9 of the State constitution, the University is given "full powers of organization and government subject only to such legislative control as may be necessary to ensure the security of its funds and compliance with the terms of the endowments of the university and such competitive bidding procedures as may be made applicable to the university." To this end, the University of California, and its 10 campuses, are not subject to local jurisdictions for land use, zoning, ordinances, General Plans, or Specific Plans. Local ordinances which attempt to regulate the University in the management of its affairs or use of its property are not applicable because these ordinances would interfere with the University's exclusive power to regulate its own affairs. Because the proposed housing sites, including the UNEX site, are clearly "property held by the Regents in public trust," regulation of their use is reserved to the University.

The Westwood Village Specific Plan and North Westwood Village Specific Plan areas are within the larger Westwood Community Plan Area. Notwithstanding the fact that the North Westwood Village Specific Plan identifies the UNEX site as being within the Specific Plan area, the Westwood Community Plan clearly identifies that that the UNEX site has a "Public Facilities" land use designation, consistent with the main campus. The Public Facilities land use designation represents "public schools, public facilities, freeway rights-of-way, and other government or publicly-owned lands".

Therefore, development proposed by the University is not required to comply with City regulations, including development standards (e.g., height restrictions, parking requirements, open space requirements), presented in the City's Specific Plans.

Emergency Access to the Hospital and Pedestrian Conflicts

Comments were received about activities at the UNEX site, including pedestrians walking to/from the site, potentially impeding emergency vehicle access to the Ronald Reagan UCLA Medical Center (RRUCLAMC). Further, comments addressed the potential for increased safety issues associated with introduction of more pedestrians at the intersection of Gayley Avenue and Le Conte Avenue. Representative comments regarding these issues include:

- "UCLA has completely ignored the location of UNEX in one other critical respect, namely that it would be introducing 1,300 students to an intersection which is trafficked heavily by paramedic vehicles serving UCLA Ronald Reagan hospital. This would disrupt emergency vehicle operations and lead to accidents with pedestrians and students…Moreover, the finding of "less than significant" for Threshold 13.4 and 13. 5 is also ridiculous because the UNEX site would clearly lead to a dangerous intersection, and add a material number of pedestrians that will impede emergency vehicles' access to Ronald Reagan Hospital."
- "With ambulances driving nonstop 24 hours a day to the hospital that you chose to be entered via Gayley Avenue, emergent health care delivery will be impeded. There will surely be accidents with the increased foot traffic with the additional housing there."
- "How does the massive UNEX project significantly affect the access to the regional emergency center at the UCLA hospital when the main access to the hospital on Gayley Avenue is blocked by first responders to the massive UNEX structure in case of a fire, earthquake, or other major emergency?"
- "Having 1,300 additional students crossing this major intersection is dangerous for them and other pedestrians and drivers."
- "Gayley Ave. is the ambulance route to the UCLA Hospital and ambulances must pass UNEX site, how will UCLA assure safe conditions here especially on move in and out times of the year?"

Potential impacts related to emergency access during construction and operation are addressed in Section 4.13, Transportation/Traffic, of the Draft SEIR (refer to the discussion of Threshold 13.5). As identified, construction activities may result in temporary closure of traffic lanes or roadway segments along roadways adjacent to the proposed housing sites (including the UNEX site) to permit delivery of construction materials; to transport soil; to accommodate the installation of utility infrastructure; or to provide adequate site access. The reduction of roadway capacity, the narrowing of traffic lanes, and the occasional interruption of traffic flow could impair emergency access. However, construction activities would be planned so that access for emergency vehicles is maintained at all times. Additionally, implementation of PP 4.13-8 as part of the proposed Project would require consultation with emergency service providers in the event of lane or street closures. Therefore, there would be less than significant impacts related to emergency access during construction of the proposed Project. The proposed project does not involve any changes to the roadways adjacent to the UNEX site that would hinder emergency vehicle travel. With respect to the RRUCLAMC, approximately 25 to 35 ambulances transport patients to this facility on a daily basis. Of these emergency transports, approximately 12 involve advanced life support (ALS) conditions where the emergency transport vehicle is using lights and sirens and can take precedence over traffic controls around them (e.g., pass through a red light). The remaining ambulance transports involve basic life support (BLS) and would not typically involve the use of lights and sirens. Lights and sirens are used to warn road users (motorists, bicyclists, and pedestrians) to pull over or stand aside so that the emergency vehicle can proceed to the RRUCLAMC or other destination. Gayley Avenue is the recommended primary route to the RRUCLAMC if the emergency vehicle is coming from Wilshire Boulevard; however, not all of the emergency vehicles use this route. The emergency entrance to the hospital is along Charles E.

Young Drive South, and emergency vehicles traveling to the hospital have a number of available routes and the drivers have discretion to use the most efficient route. Therefore, it is anticipated that less than 35 emergency vehicles travel through the intersection of Gayley Avenue and Le Conte Avenue on a daily basis, and not all of these emergency vehicles do so with lights and sirens.

The U.S. Department of Transportation (USDOT) National Highway Traffic Safety Administration reports that in 2015 most pedestrian fatalities occurred at non-intersections (72 percent) than at intersections (18 percent), the remaining 10 percent occurred at other locations (e.g., roadside/shoulders, parking lanes/zone, bicycle lanes, sidewalks, medians, driveway accesses, shared-use paths/trails, non-traffic way areas)[9]. The intersection of Le Conte Avenue and Gayley Avenue is a signalized four-way intersection with painted crosswalks at each leg of the intersection. As identified in Section 4.13, Transportation/Traffic, of the Draft SEIR (refer to Table 4.13-1), the intersection of Gayley Avenue and Le Conte Avenue operates at level of service (LOS) A in the AM and PM peak hours (LOS A indicates that intersection operations are excellent). As further discussed under Topical Response 5, below, parking at each of the proposed housing sites, including the UNEX site, would be limited to a few spaces at each site and would not include parking spaces for student residents or staff to discourage vehicular travel. Because the proposed housing project at the UNEX site involves demolition of the occupied UNEX building, the total amount of traffic generated at this site would be reduced.

Further, although the proposed housing structures at the UNEX site, as currently designed, would accommodate 1,159 beds (compared to 1,350 beds addressed in the Draft SEIR), the student residents (with varying class and activity schedules) would not be entering and exiting the buildings at the same time on a daily basis. With adherence to applicable traffic laws, including use of the designated crosswalks at the intersection of Gayley Avenue and Le Conte Avenue, the introduction of additional student housing at the UNEX site would not impede the limited number of emergency vehicles that travel to the RRUCLAMC with lights and sirens on a daily basis.

Additionally, pedestrian volumes through an intersection are not correlated to a higher crash rate. A motorist is less likely to collide with a person walking and bicycling if more people walk or bicycle; policies that increase the numbers of people walking and bicycling appear to be an effective route to improving the safety of people walking and bicycling[10]. Although information provided by a commenter indicates that in 2014 Los Angeles County had the highest total of pedestrian fatalities, the intersection of Le Conte Avenue and Gayley Avenue, which already experiences high pedestrian crossing volumes at all intersection legs, is not on the City of Los Angeles High Injury Network.[11] The City's High Injury Network spotlights streets with a high concentration of traffic collisions that result in severe injuries and deaths, with an emphasis on those involving people walking and bicycling. Therefore, contrary to the assertions made by commenters, the proposed housing project at the UNEX site would not have a significant impact on intersection operations, and would not increase safety concerns or otherwise result in dangerous conditions at the Gayley Avenue and Le Conte Avenue compared to existing conditions.

With respect to the potential for an emergency situation at the UNEX site that may obstruct travel on Gayley Avenue, as noted above there are multiple routes available to access the hospital and emergency vehicles will use the most efficient route. Additionally, the introduction of the proposed housing project at the UNEX site does not increase the potential for emergency conditions at the

9 Traffic Safety Facts 2015 Data, USDOT, NHTSA (published February 2017)

10 Jacobsen, P. (2003). Safety in numbers: more walkers and bicyclists, safer walking and bicycling. *Injury Prevention*, *9*(3), 205–209. http://doi.org/10.1136/ip.9.3.205

11 City of Los Angeles (accessed December 8, 2017). City of Los Angeles High Injury Network (HIN) Map. http://ladot.maps.arcgis.com/apps/MapJournal/index.html?appid=488062f00db44ef0a29bf481aa337cb3&webmap=6ad51e9cf42c4ef09817e4b3b4d2eeb0%22

site or in the vicinity. The existing 9-story UNEX building site is seismically deficient and existing conditions there is a potential for a major disaster or emergency condition that would require lane or roadway closures adjacent to the UNEX site or at other locations in the area. The need for such closures while ensuring access and safety, as appropriate, will be assessed by emergency responders on a case-by-case basis, consistent with current operating procedures. Responding emergency personnel would manage traffic and other access in the area, as necessary.

Consistent with the campus' standard procedures, the Campus Fire Marshal would review and approve the proposed housing projects to ensure that circulation and design features allow adequate emergency vehicle access in compliance with applicable regulations. As further discussed in Section 4.5, Geology and Soils, of the Draft SEIR, the proposed buildings at the UNEX site would be designed and constructed in compliance with the California Building Code (CBC) applicable at the time of development and current engineering practices as prescribed in site-specific Geotechnical Investigations. The buildings would also be designed in consideration of site-specific seismic design parameters and peak ground acceleration for the Maximum Considered Earthquake. Further, the proposed structures would be constructed to current building standards (e.g., fire protection, earthquake) compared to the existing UNEX building, which was constructed in 1971 and does not comply with existing, more stringent, building code standards. The proposed structures would have a lower risk relative to fire and seismic-related hazards and would not increase the potential for Gayley Avenue, or any other roadway in the vicinity, to be obstructed in the event of an emergency. Further, all development on campus, including the proposed structures at the UNEX site are required to comply with the University of California's Seismic Safety Policy, which requires that each campus maintain an emergency response plan for use in the event of a damaging earthquake.

With respect to traffic control during move in and move out from the UNEX site, move-in is an event that takes place over a four-day period in September to align with the beginning of the school year. Residents will have assigned move in times, that occur every half hour to hour. UCLA schedules approximately 20 residents per half hour to move in. This timing ensures that there is a smooth steady pace that is manageable to the building temporary parking as well as the building hallways, elevators, etc. In addition, University Apartments Administration will work with the city to gain permits to block off street parking spaces on Le Conte, west of Gayley to Levering as well as the side of Levering. University Apartments Administration has navigated the same approach for the following apartment buildings: Weyburn Terrace, Landfair, Glenrock, Landfair Vista, and Westwood Chateau. The staggered move in approach maintains a positive orderly experience to load the building and not over burden parking spaces beyond the permitted blocked spaces. It also ensures that the process does not impede emergency vehicle access.

Move out traditionally beginning during finals week of the Spring Quarter. Each student has varied final schedules and thus there are not specifically assigned move out times. However, as the contract end date is the Friday of finals week, the busiest day of the week is Friday with still a fairly large size of the population remaining to move out the last day of the contract. Again, administration will work with the city to gain blocked permitted parking for the last Friday of the contract.

Lastly, as needed, University Apartments will explore utilizing parking spaces in the nearby Gayley Court for move in and move for the residents.

TOPICAL RESPONSE 5: PARKING AND TRIP GENERATION

Comments were received about the limited amount of parking proposed to be provided at each of the housing sites, and notably the UNEX site. The comments question the assumption that there would be a corresponding reduction in trip generation with the provision of limited parking,

and incorrectly assert that there is an assumption that none of students would have cars necessitating the provision of parking. Representative comments regarding these issues include:

- "Why is it assumed that zero residents of the UNEX project will have cars that need parking spaces?"
- "The DEIR states that UCLA's failure to provide on-campus parking for students reduces trip generation. Please explain how, if at all, you prevent students from bringing a car and parking it in areas surrounding campus, such as in the adjacent Westwood Hills and Holmby-Westwood neighborhoods, or in the public spaces in the Broxton Parking Lot or otherwise in the Westwood Village. Also, please explain what enforcement procedures you undertake to ensure that your preventive measures are effective."
- "What are the plans for the parking for these 1,350 students who may wish to have a car while at UCLA?"
- "What studies has UCLA done to show that the nearly 1,300 residents of the proposed UNEX tower will forego car ownership?...So what studies can UCLA point to that credibly show that upper division and graduate school students will go car-less?"
- "UCLA makes a haphazard attempt at discussing alternatives to the proposed project. First off, UCLA makes a grand statement without any substantiation that off-campus development would not decrease vehicle trips. This ignores of course the fact that many private sector apartments are located within walking distance to UCLA. Moreover, there is no discussion as to whether or not UCLA has surveyed its student body to confirm that building no parking spaces means those students will not bring cars to Westwood and park on the street, thereby further straining an already severely constrained parking supply in the community. UCLA must show some evidence of these assertions in order to meet its legal requirement under CEQA to fully explore alternatives and their implications."

As identified in Section 3.5.2, Circulation and Parking, of the Draft SEIR, the proposed housing projects would include vehicular access and parking, as necessary, to comply with Americans with Disabilities Act (ADA) requirements and to accommodate the drop-off, pick-up, and service needs at each location. No student resident or staff parking would be provided at the proposed housing sites. Should student residents or staff need parking, parking permits would be available for spaces on the UCLA campus. Consistent with the Caltrans-identified measure to reduce vehicle trips, housing fees at UCLA do not include parking fees. As discussed below, UCLA limits the number of parking spaces available to students, and students are required to complete an application process for a parking permit, separate from any housing applications.

With respect to the assertion that the proposed housing projects have been designed with the assumption that no students or staff would have cars; this is incorrect. Rather, as described in Section 3.5.3, Circulation and Parking, of the Draft SEIR, should student residents or staff need parking, parking permits would be available for spaces on the UCLA campus for qualified individuals. Unlike off campus, non-University housing or other uses, UCLA controls the number of parking spaces provided, and the individuals that qualify for parking on-campus and at off-campus University-owned properties. Most relevant to the proposed housing projects, to qualify for a parking space on-campus undergraduate student residents must demonstrate they have a need to have a vehicle. If an undergraduate student resident has extenuating circumstances that necessitate having a car on campus, they may apply for a parking exemption. Undergraduate student residents that may be eligible for exemptions to parking restrictions include:

- Residence hall students with a local, verifiable, current and continuous off-campus job, paid internship, or academic need related to their major.

- Residence hall students with extenuating circumstances (i.e., care of child when the student is a legal parent or guardian; student is an eligible care provider for a spouse, child, or parent who has a serious health condition; recent death of parent, spouse, or child within the last year; student has suffered from a crime-related incident [stalking or threats]; and academic need/professional school).

With respect to the correlation between reduced parking and reduced trip generation and/or vehicle miles traveled (VMT), as identified in the NOP comment letter received from the California Department of Transportation (Caltrans) (included in Appendix A of the Draft SEIR), and addressed in Section 4.6, Greenhouse Gas Emission, of the Draft SEIR (see pages 4.6-11 and 4.6-21), Caltrans' Strategic Management Plan 2020[12] and Caltrans 2040 Transportation Plan[13] outline policy goals related to sustainable transportation to reduce the number of trips made by driving, reduce greenhouse gas emissions, and encourage alternative modes of transportation. The NOP comment further identifies measures to reduce the number of vehicle trips generated by the project and/or per capita vehicle miles traveled (VMT), including, but not limited to "reducing the amount of parking associated with the project; and/or decoupling student housing costs and parking costs". Similarly, a 2002 study conducted by Caltrans on Transit-Oriented development (TOD) success factors found that reduced parking requirements can reinforce and encourage transit use, improve local traffic circulation and improve urban design[14]. Caltrans' comment letter on the Draft SEIR (included in this Final SEIR as Comment Letter 2) further acknowledges that "By increasing the amount of student housing in close proximity to campus on infill sites in an area well-served by public transit, the project may produce a per capita reduction in vehicle miles traveled, especially as there will be minimal parking provided in association with the new development."

The benefits of reducing vehicular travel through the provision of limited parking is further substantiated by the provisions of SB 743, as discussed under Topical Response 4 (refer to the discussion of aesthetic/visual impacts). Governor Brown signed SB 743 in September 2013, which made several changes to CEQA for projects located in areas served by transit (i.e., transit-oriented development or TOD). Specifically, Public Resources Code Section 21099, Subdivision (d)(1), provides that "Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment." This means that, effective January 1, 2014, aesthetics and parking will no longer be considered in determining if a project has the potential to result in significant environmental effects provided a project meets all of the identified criteria.

This approved change in CEQA provides relief for infill development near major transit stops. Prior to the SB 743, in 2010, the Governor's Office of Planning and Research (OPR)[15] amended Appendix G of the CEQA Guidelines to remove the significance criterion about inadequate parking capacity. This policy direction continues to evolve and is strengthened by the provisions of SB 743 discussed above.

The UNEX site (and the Warren Hall and Bradley sites) meet the established criteria for determining that parking impacts shall not be considered significant CEQA impacts of a project. It should be noted that the provisions of SB 743 would also apply to any private development

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12 California Department of Transportation (Caltrans). 2015 (March). *Caltrans Strategic Management Plan 2015–2020.* Sacramento, CA: Caltrans.

13 Caltrans. 2016 (June). *California Transportation Plan 2040: Integrating California's Transportation Future.* Sacramento, CA: Caltrans

14 Caltrans. 2002 (February). *Statewide Transit-Oriented Development (TOD) Study, Factors for Success in California, Special Report Parking and TOD: Challenges and Opportunities.*

15 The Governor's Office of Planning and Research is responsible, among other things, for drafting and maintaining the CEQA Guidelines, creation of State Environmental Goals and Policy Reports, and operation of the State Clearinghouse for distribution and review of CEQA documents.

project in a Transit Priority Area being processed through the City of Los Angeles, including in Westwood Village. This is outlined in the City of Los Angeles Department of City Planning Zoning Information File (ZI) No. 2452, Transit Priority Areas (TPAs)/Exemptions to Aesthetics and Parking Within TPAs Pursuant to CEQA.

The provision of limited parking at the proposed housing sites (and specifically the UNEX site), which would be served by transit, is consistent with transportation strategies to reduce traffic and minimize traffic congestion, and reduce vehicle miles traveled and associated air quality impacts and greenhouse gas emissions.

With regard to parking management on campus, UCLA focuses on providing incentives and subsidies for students to use alternative modes of transportation rather than single occupancy vehicles that require parking facilities. As further discussed in Section 4.13, Transportation/Traffic, of the Draft SEIR and March 2009 LRDP Amendment Final EIR, the UCLA Transportation Demand Management (TDM) program began in 1984 with a mission of using parking fees and other UCLA resources to achieve cost-effective reductions in campus trip generation and parking demand, while increasing mobility options for faculty, staff, and students. The UCLA TDM program has grown into a comprehensive program that offers a broad range of services to encourage and assist UCLA commuters in utilizing alternatives to the single-occupancy vehicle.

The specific components of the TDM program will continue to change over time as the campus strives for the most cost-effective manner by which to achieve its required goals, so long as the overall effectiveness of the program is not compromised. The UCLA TDM program includes carpool matching, vanpool, campus transit/shuttles, emergency ride home program, bicycles, iWalk pedestrian program, motorcycles and scooters, telecommuting and alternative work schedules, car share, alternative fuel infrastructure, TDM outreach, BruinGo! transit program, non-stop bus service to the Los Angeles International Airport, and Go Metro Transit Access Pass (TAP) passes. With respect to bicycles, in October 2017 UCLA launched the Bruin Bike Share program which provides 130 bikes at 18 hubs spread throughout the campus and Westwood Village. Students, staff, faculty and visitors are able to take bikes from one designated hub to another, and subsidized pricing is provided for students and UCLA employees.

During the more than 32 years of operation, UCLA's TDM program has remained at the leading edge of such programs and has received numerous awards from regional and local agencies, including the State of California's Governor's Award, the City of Los Angeles Mayoral Award, and Rideshare Program Awards from the South Coast Air Quality Management District (SCAQMD) and Metro. In addition, UCLA has been recognized as a best workplace for commuters by the U.S. Department of Transportation (USDOT) and the U.S. Environmental Protection Agency (USEPA).

Since 1984, UCLA's comprehensive TDM program increased the campus-wide average vehicle ridership (AVR)[16] from 1.26 to 1.66; exceeding the 1.5 AVR goal set by the SCAQMD. The TDM program includes incentives to reduce the employee drive-alone rate, which has resulted in a decline from 69 percent in 1990 to approximately 53 percent in 2016, which is substantially lower than the Los Angeles County drive-alone rate of 74 percent. As reported in the UCLA *State of the Commute: An Annual Report, January–December* 2016, the drive-alone rate has been accomplished through 1,030 carpools and 148 vanpools transporting 1,438 full-time riders. UCLA Transportation is responsible for monitoring compliance with the TDM program.

With respect to commuting student transportation mode splits, based on surveys of students conducted by UCLA Transportation, in 2016 approximately 75 percent of commuting students used a mode of transportation other than driving alone. Notably, approximately 36 percent of

[16] The AVR is the ratio of employees arriving between 6 AM and 10 AM to the motor vehicles they drive to campus.

students used a non-vehicular mode of transportation (walking or bicycle). In 2017 approximately 78 percent of commuting students used a mode of transportation other than driving alone; approximately 43 percent of students used a non-vehicular mode of transportation.

In addition, UCLA began the BruinGo! transit subsidy program in September 2000, which includes reduced fares on the Santa Monica Big Blue Bus and Culver City Bus. In 2005, the GoMetro program was launched, introducing 50 percent transit subsidies for Los Angeles County's Metro Bus and Metro Rail systems. The LADOT, Santa Clarita Transit, and the Antelope Valley Transit Authority all have 50 percent transit subsidy agreements with the University.

To incentivize ridesharing and active transportation, UCLA students and employees who use an alternative transportation mode can receive commuter benefits by joining the Bruin Commuter Club (BCC). BCC members receive discounted daily parking privileges, commuter rewards from Metro, and emergency ride home services. Those who bike or walk to campus also receive additional mode-specific benefits through BCC. In 2016, the BCC had roughly 5,000 employee members and 400 student members.

Carsharing services at UCLA allow customers to rent a vehicle for an hourly or daily rate, with fuel and insurance costs included in the rental fee. Zipcar is currently the sole carsharing provider for UCLA, with a total of 24 vehicles available at 11 different locations on campus.

The effectiveness of UCLA's parking management and TDM programs as it relates to on campus students is demonstrated through the number of parking spaces used on campus and average daily trips. Prior to 2001, on-campus students were offered parking at the rate of 1 space per 8 residents. In 2016, on-campus resident students consumed parking at the rate of 1 space per 246 students, a substantial reduction compared to 2001. Relevant to the UNEX site, juniors and senior resident students consumed parking at the rate of 1 space per 45 students in 2016. Based on this parking ratio, it is estimated that the parking demand from student residents at the UNEX site, which would accommodate upper-division undergraduates (juniors and seniors), would be approximately 26 spaces/permits (based on the currently proposed 1,159 beds). The undergraduate students would park at on-campus parking facilities; UCLA currently has 392 fallow (unassigned) parking spaces and there is no waiting list for parking. It should be noted that student residents that qualify could park at the existing parking facilities at Weyburn Terrace; only 45 percent of the parking at the existing Weyburn Terrace is currently used.

Further demonstrating the reduction in parking demand, the overall number of parking spaces issued to students in the fall 2016 decreased by 94 permits compared to fall 2015 (7,078 permits in 2016 compared to 7,712 permits in 2015)[17]. As reported in Section 4.13, Transportation/Traffic of the Draft SEIR (page 4.13-9), the total average daily trip generation for the UCLA campus has remained well below the LRDP trip cap of 139,500 average daily vehicle trips (pursuant to PP 4.13-1[a]). During the fall 2016 Cordon counts (the most current available information), the campus generated approximately 105,284 daily vehicle trips, which is approximately 13,985 fewer daily vehicles trips than in 2007 when the March 2009 LRDP Amendment Final EIR was prepared (estimated at 119,269 daily vehicle trips). This represents a 12 percent decrease in the campus daily vehicle trips between 2007 and 2016, despite the weekday average population increase. It should also be noted that 2016 Cordon counts are approximately 25 percent less than the campus trip cap of 139,500. With a 2016 trip level approximately 25 percent below the campus vehicle trip cap, UCLA continues the trend of low overall vehicle trip generation experienced over the past 10 years (with daily trip generation levels approximately 14 to 30 percent below the trip cap).

[17] University of California, Los Angeles (UCLA). 2016 (December). *State of the Commute: An Annual Report, January–December 2016*. Los Angeles, CA: UCLA.

TOPICAL RESPONSE 6: METRO PURPLE LINE SUBWAY EXTENSION

Comments were received from various individuals regarding the planned Metro Purple Line Subway Extension; the comments primarily addressed potential overlap of construction activities for the proposed Project and the subway extension. Representative comments include:

- "The DSEIR does not engage in any meaningful analysis of the Metro expansion of the subway line … The EIR seems to pay lip service to the proposed extension of the subway line, but doesn't delve into how that extension would impact the proposed development, traffic patterns or vice versa (i.e., a missing cumulative effects analysis)."
- "The DEIR is seriously deficient in failing to analyze the impacts of this Metro Purple Line construction beginning in January 2018. Please analyze the impacts of Metro Purple Line construction in Westwood scheduled to begin in January 2018. Items to be analyzed include, without limitation, impact on the daily flow of traffic coming into and out of UCLA from/to the south and the resulting impacts on emergency access to the hospital on campus, and on the haul routes for each project identified in the DEIR."
- "Does this cumulative analysis consider impacts that might arise from closure of all or part of Wilshire Blvd between Westwood and Veteran during evening and daytime hours to accommodate Metro construction beginning in 2018 and continuing through 2024? These closures will result from acceleration of the Purple Line extension to Westwood made possible by passage of Measure M last November. How will the campus deal with these conflicts? Has the campus established a formal liaison with Metro to ensure effective coordination. What will be the impact on emergency services and movement within the community? Will nearby residential areas experience an increase in congestion on neighborhood streets?"
- "In the DEIR, there is no mention of the impact of the metro construction set to begin in winter of 2018. Much of the Wilshire corridor and Westwood village along with Westwood Blvd, Gayley, veteran and other streets will be severely impacted by the construction set to coincide with the dorm construction. Traffic flow will be severely impeded and Westwood hills will be suffer significant negative impact."

The Draft SEIR specifically considers the potential impacts of the expansion of the Metro Purple Line, including in Section 4.13, Transportation/Traffic, which addresses transit options relevant to the proposed Project (refer to page 4.13-10). When the Notice of Preparation for the Draft SEIR was distributed in May 2017 and preparation of the Draft SEIR was initiated, information available from the Los Angeles County Metropolitan Transportation Authority (Metro) regarding the construction schedule for the Purple Line Extension indicated that pre-construction activities[18] for Segment 3 (from Century City/Constellation to Westwood/VA Hospital) would occur from 2025 to 2027 and construction would occur from 2027 to 2035. Therefore, the assumption was made that construction of the Purple Line Extension would not occur until after construction of the proposed housing projects was largely completed (with completion of the housing projects at the Bradley and Drake Stadium sites anticipated in summer 2025). It should also be noted that the NOP was transmitted to Metro, and while Metro provided comments on the NOP; no information regarding the accelerated construction scheduled was provided by Metro in its NOP comments. Additionally, the Draft SEIR was submitted to Metro for review and no comments were received.

[18] Pre-construction activities generally include: funding, developing location-specific construction mitigation, real estate appraisals and acquisitions, pre-construction surveys, community outreach, opening a relocation office, continuing field testing, and utility relocation. During utility relocation, utilities which could be impacted by tunnel or station construction in are relocated to ensure continued service; this is referred to as Advanced Utility Relocation (AUR).

Subsequently, Metro released various revised and accelerated construction schedules indicating that construction activities for the Purple Line Extension were being accelerated. This is primarily due to available funding through Measure M and the City of Los Angeles Olympic bid (including the 2024 Olympics). Based on available information from Metro at the time of preparation of this Final SEIR, pre-construction activities for the Westwood/UCLA subway station (between Glendon Avenue and Veteran Avenue), including Advanced Utility Relocation (AUR), will occur between January 2018 and December 2019, and construction of the Westwood/UCLA subway station would occur between 2018 and 2026[19]. For reference, and as further discussed in Section 2 of this Final SEIR, based on refinements to the construction assumptions for the proposed housing projects at the Lot 15, Warren Hall and UNEX sites, these projects would be under construction between August 2018 and April 2022, with activities involving heavy truck trips primarily occurring between August 2018 and February 2019. The estimated construction schedules for the Bradley and Drake Stadium sites remain the same (generally from fall 2022 to summer 2025).

To address comments regarding overlapping construction activities associated with the proposed housing projects and the subway construction, it is important to understand the phases of construction activities that would be occurring for the proposed housing projects and how that relates to construction staging and methods for the subway construction. Key information related to these activities is presented below; information regarding the AUR is based on information prepared by Metro.

- AUR involves relocation of existing utilities to the clear the way for the subway station construction activities. AUR is the primary construction activity for the subway station that would involve closure of the travel lanes along Wilshire Boulevard. The AUR along Wilshire Boulevard from January 2018 to December 2019 between Glendon Avenue and Veteran Avenue will occur in 17 stages, with 9 stages between Gayley Avenue and Veteran Avenue ranging from approximately 5 to 45 days. Additionally, utility work would occur along Wilshire between Federal Avenue and west of I-405 to supply power for the tunnel boring machines and the VA station; the proposed construction routes for the proposed Project do not extend west of the I-405. This work is expected to start mid- to late-2018 and w.
- AUR and other utility-related construction activities will occur Monday through Friday between 9:00 PM and 6:00 AM and on the weekends from Friday at 9:00 PM to Monday at 6:00 AM; they would not occur during the day, including during peak periods of traffic. Exemptions to these construction schedules may be requested when required due to unforeseen underground conditions. The hours of construction and traffic plans will be approved by the City of Los Angeles, and will be coordinated with UCLA Transportation. Metro will also be responsible for coordinating with the Los Angeles Department of Transportation and emergency service providers regarding lane closures. Notably, Metro holds regular meetings with emergency responders to update them on the subway construction activities.
- During the AUR construction hours, one lane of traffic in each direction along Wilshire Boulevard will be maintained, and the lanes will re-open at the end of each work period. Wilshire Boulevard travel lanes will not be closed during the day, including during peak periods of traffic.
- The AUR construction activities will overlap with periods of construction for the proposed housing projects at the Lot 15, Warren, and UNEX sites; however, the only housing project that involves construction traffic along Wilshire Boulevard between Veteran Avenue and Gayley Avenue is the Lot 15 site (refer to the attached graphics depicting construction

[19] Presented in a Powerpoint presentation prepared by Metro in 2017 titled “Purpose Line Extension Advanced Utility Relocation, Westwood/UCLA Station”.

Proposed Construction Routes – Lot 15, Warren Hall and UNEX Sites

UCLA LRDP Amendment (2017) and Student Housing Projects

N W E S

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PSOMAS

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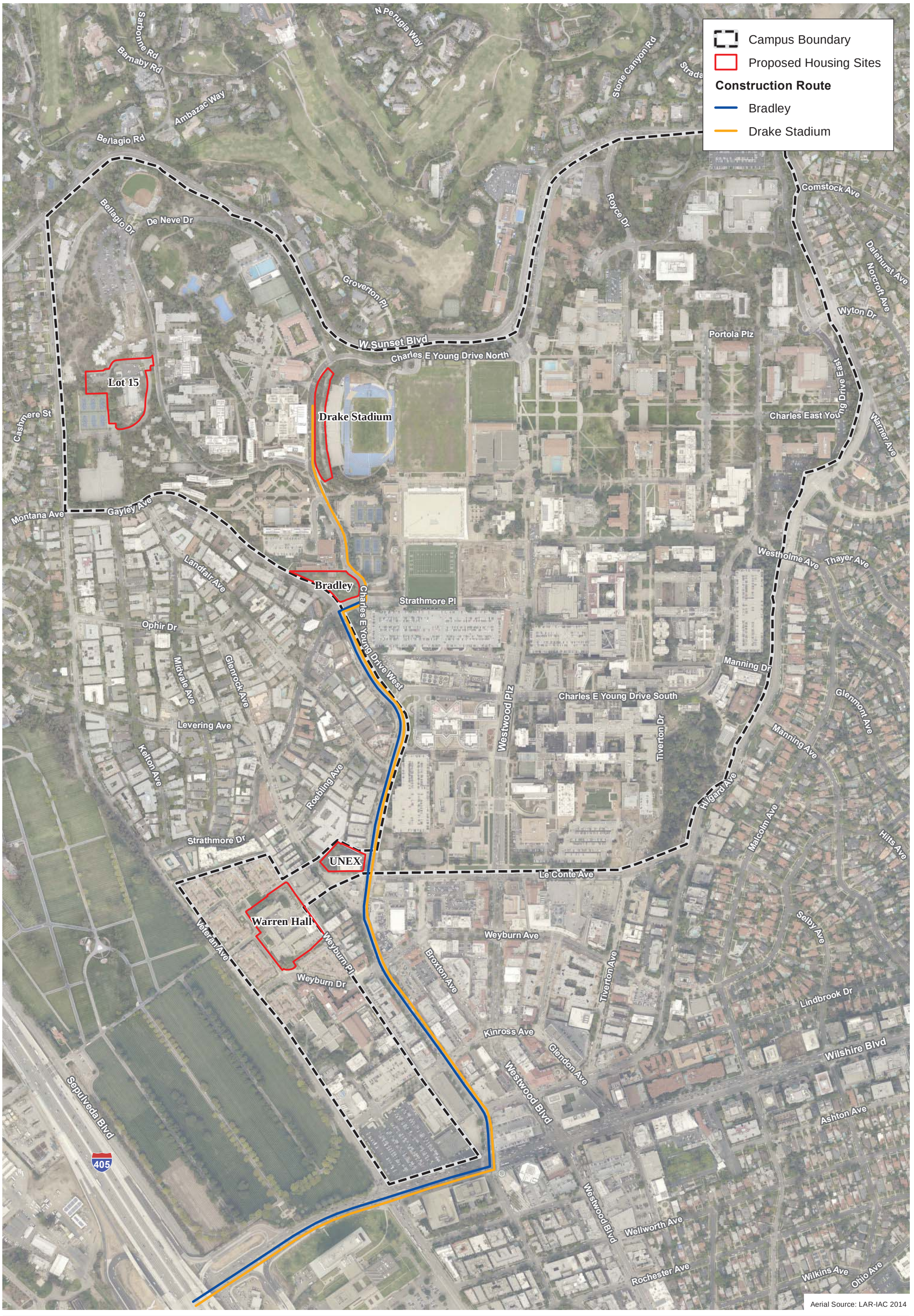

Aerial Source: LAR-IAC 2014

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Proposed Construction Routes – Bradley and Drake Stadium Sites

UCLA LRDP Amendment (2017) and Student Housing Projects

N W E S

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(Rev: 01/04/2018 MMD) R:\Projects\UCL\J0028.08\Graphics\Final_EIR\ex_ConstructionRoutes.pdf

routes). It is estimated that there would be a maximum of approximately 54 daily round truck trips generated during construction at the Lot 15 site. However, these truck trips, and truck trips for the other housing projects would not occur until after the travel lanes closed for AUR have re-opened each morning and before the closure of lanes at 9:00 each evening.

With respect to the construction activities for the Westwood/UCLA subway station, UCLA's surface parking Lot 36 will serve as a construction staging area for this construction effort. A subway station portal is also planned along Westwood Boulevard south of Lindbrook Drive; however, no construction traffic from the proposed housing projects would travel along Westwood Boulevard. Based on information that Metro has provided to UCLA, construction staging at Lot 36 is estimated to begin in 2020, following completion of the AUR activities. It is estimated that construction activities at Lot 36 would occur until completion of the Westwood/UCLA subway station. During this period, building construction activities for the proposed housing projects would be continuing. However, limited construction activities for the subway station work will be occurring above ground along Wilshire Boulevard; the construction activities would occur internal to Lot 36 (i.e., the subway station entrance), or underground (i.e., the station platform below Wilshire Boulevard).

It should be noted that detours and temporary lane closures will be required for initial station excavation and to install the concrete street decking. These same measures will be required toward the end of station construction to remove the decking and reconstruct the street. In the period in between, while the station is being constructed under the decking, impact to surface street traffic would largely be limited to trucks hauling construction materials and excavated soil on designated haul routes. Approved haul routes for the Westwood/UCLA station include Wilshire Boulevard, Veteran Avenue, Kinross Avenue and Gayley Avenue. As previously noted, these activities would not overlap with the construction activities for the proposed housing projects that generate the most heavy truck trips.

It should be noted that the impacts associated with construction of the Purple Line Extension were comprehensively addressed in the *Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Westside Subway Extension* (SCH No. 2009031083), which was certified in March 2012[20]. These include any potential impacts resulting from constructing the stations, station entrances, the use of construction staging locations, and the underground tunnels. The Final EIS/EIR included mitigations to eliminate or reduce any of these impacts, such as: restrictions on days and hours of construction; identifying detours for any street closures; specifying truck haul routes; utilizing noise dampening and/or decorative fencing around construction sites; or assistance to area businesses, etc. However, even with implementation of identified mitigation measures, significant and unavoidable temporary construction-related impacts for the subway were identified related to: transportation facilities (public transit, streets and highways, parking and bicycle and pedestrian network); air quality; and cumulative impacts.

UCLA is actively coordinating with Metro on the planned subway construction activities. Once construction activities are initiated, Metro will hold more regular meetings with UCLA and other stakeholders to share construction updates. The will allow the agencies to minimize conflicts between campus operations and construction projects, and subway construction activities.

In summary, the concurrent construction activities associated with the Westwood/UCLA subway station AUR, the subway station, and the proposed housing projects would not result in traffic-related construction impacts that were not evaluated and disclosed in the Draft SEIR. It is

[20] Los Angeles County Metropolitan Transportation Authority and U.S. Department of Transportation, Federal Transit Administration. 2012 (March). *Westside Subway Extension Final Environmental Impact Statement/Environmental Impact Report* (SCH No. 2009031083).

important to note that Section 4.13, Transportation/Traffic, of the Draft SEIR does identify that due to the potential overlap between the proposed Project construction and other current and future on- and off-campus construction projects, it is conservatively assumed that the net effect of the proposed Project's construction activities and cumulative projects could result in significant cumulative localized traffic impacts in the vicinity of campus at intersections that provide access to the campus. While the proposed Project's impact is less than significant at a Project-specific level, the Project's contribution to significant cumulative construction-related traffic impacts is considered a significant cumulative impact. This is a significant and unavoidable impact of the Project for which The Regents will need to adopt a Statement of Overriding Considerations.

3.3 RESPONSES TO COMMENT LETTERS RECEIVED

This section includes responses to substantive Draft SEIR comments received by the University. This section is formatted so that the respective comment letters are followed immediately by the corresponding responses. The comment number provided in the right margin of the letter corresponds to the responses provided.

Comment Letter 1

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

October 10, 2017

Tracy Dudman
University of California, Los Angeles
1060 Veteran Avenue, CPB
Los Angeles, CA 90095

Subject: UCLA Long Range Development Plan Amendment (2017) and Housing Projects
SCH#: 2017051024

Dear Tracy Dudman:

The State Clearinghouse submitted the above named Supplemental EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on October 9, 2017, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2017051024
Project Title UCLA Long Range Development Plan Amendment (2017) and Housing Projects
Lead Agency University of California, Los Angeles

Type SIR Supplemental EIR
Description UCLA proposes to amend the existing long range development plan to add 1,500,000 gross square feet of development space allocated to student housing at 5 sites on the UCLA main campus. Up to 6,900 new student beds would be accommodated by the proposed LRDP amendment.

Lead Agency Contact

Name Tracy Dudman
Agency University of California, Los Angeles
Phone 310-206-9255 **Fax**
email
Address 1060 Veteran Avenue, CPB
City Los Angeles **State** CA **Zip** 90095

Project Location

County Los Angeles
City Los Angeles, City of
Region
Lat / Long
Cross Streets five sites on the main campus
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways 405
Airports
Railways
Waterways
Schools Marymount HS, UCLA Lab School, Fairburn ES, etc.
Land Use 5 sites at UCLA: parking lot (Lot 15), academic uses, vacant; stadium concourse (Drake Stadium). The UCLA campus, including the proposed housing sites, is designated as public facility in the City of Los Angeles General Plan and Zoning.

Project Issues Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Geologic/Seismic; Noise; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Solid Waste; Traffic/Circulation; Water Quality; Vegetation; Landuse; Other Issues; Aesthetic/Visual; Population/Housing Balance; Toxic/Hazardous

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 5; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 7; California Department of Education; Office of Emergency Services; California Department of Housing and Community Development; Department of Toxic Substances Control; Native American Heritage Commission

Date Received 08/24/2017 **Start of Review** 08/24/2017 **End of Review** 10/09/2017

Note: Blanks in data fields result from insufficient information provided by lead agency.

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF REGIONAL PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-0067
FAX (213) 897-1337
www.dot.ca.gov

Serious drought. Making Conservation a California Way of Life.

Governor's Office of Planning & Research

OCT 09 2017

STATE CLEARINGHOUSE

October 9, 2017

Tracy Dudman
University of California, Los Angeles
Capital Programs, Environmental Planning
1060 Veteran Avenue
Los Angeles, CA 90095

RE: UCLA Long Range Development Plan
Amendment 2017 and Housing Projects
GTS# LA-2017-01089
SCH# 2017051024

Dear Tracy Dudman:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The project consists of an amendment to an existing long range development plan to add 1,500,000 gross square feet of development space allocated to student housing at 5 sites on the UCLA main campus. Up to 6,900 new student beds would be accommodated by the proposed amendment.

Based on information received in the Supplemental Environmental Impact Report (SEIR), Caltrans has the following comments:

Regional and State level policy goals related to sustainable transportation seek to reduce the number of trips made by driving, reduce greenhouse gas emissions, and encourage alternative modes of travel. By increasing the amount of student housing in close proximity to campus on infill sites in an area well-served by public transit, the project may produce a per capita reduction in vehicle miles traveled, especially as there will be minimal parking provided in association with the new development. In general, the project scope is consistent with State-level policies of promoting infill and transit-oriented development.

If you have any questions regarding these comments, please contact project coordinator Severin Martinez, at (213) 897-0067 or severin.martinez@dot.ca.gov and refer to GTS# LA-2017-01089.

Sincerely,

DIANNA WATSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Response to Comment Letter 1
Governor's Office of Planning and Research
October 10, 2017

The University received the preceding letter from the Governor's Office of Planning and Research, State Clearinghouse and Planning Unit documenting compliance with CEQA review requirements and forwarding a copy of a letter from the California Department of Transportation (Caltrans) which was received during the public review period. As to the acknowledgement of CEQA compliance, no response is required.

Caltrans sent its letter directly to the University. The comment letter followed by the University responses follows.

Comment Letter 2

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF REGIONAL PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-0067
FAX (213) 897-1337
www.dot.ca.gov

Serious drought!
Making Conservation
a California Way of Life.

October 9, 2017

Tracy Dudman
University of California, Los Angeles
Capital Programs, Environmental Planning
1060 Veteran Avenue
Los Angeles, CA 90095

RE: UCLA Long Range Development Plan
Amendment 2017 and Housing Projects
GTS# LA-2017-01089
SCH# 2017051024

Dear Tracy Dudman:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The project consists of an amendment to an existing long range development plan to add 1,500,000 gross square feet of development space allocated to student housing at 5 sites on the UCLA main campus. Up to 6,900 new student beds would be accommodated by the proposed amendment. 1

Based on information received in the Supplemental Environmental Impact Report (SEIR), Caltrans has the following comments:

Regional and State level policy goals related to sustainable transportation seek to reduce the number of trips made by driving, reduce greenhouse gas emissions, and encourage alternative modes of travel. By increasing the amount of student housing in close proximity to campus on infill sites in an area well-served by public transit, the project may produce a per capita reduction in vehicle miles traveled, especially as there will be minimal parking provided in association with the new development. In general, the project scope is consistent with State-level policies of promoting infill and transit-oriented development. 2

If you have any questions regarding these comments, please contact project coordinator Severin Martinez, at (213)-897-0067 or severin.martinez@dot.ca.gov and refer to GTS# LA-2017-01089.

Sincerely,

DIANNA WATSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Response to Comment Letter 2
California Department of Transportation (Caltrans)
October 9, 2017

1. This comment accurately summarizes the Project description. No response is required.

2. This comment indicates that the proposed student housing, which would provide limited parking and is well-served by transit, may produce a per capita reduction in vehicle miles traveled, and is consistent with State-level polices of promoting infill and transit-oriented development. This conclusion is consistent with the analysis presented in Section 4.6, Greenhouse Gas Emissions of the Draft EIR (page 4.6-21).

Comment Letter 3

Fatemeh Farmy
Brent Manor Apartments, LLC
Gayley Manor Apartments, LLC
Levering Arms Apartments, LLC
2625 Mandeville Canyon Road
Los Angeles, California 90049
talkingtima@gmail.com

October 9, 2017

VIA EMAIL

Tracey Dudman, Senior Planner
Campus and Environmental Planning, UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, CA 90095-1365
Email: t.dudman@capnet.ucla.edu

Re: UCLA LRDP Amendment (2017) and Student Housing Projects – Draft Subsequent Environmental Impact Report - SCH No. 2017051024

Ms. Dudman,

As a longtime member of the Westwood community and a property owner in Westwood for the past 35 years, I am writing to your office today to express my comments to and criticisms of the Draft Subsequent Environmental Impact Report – SCH No. 2017051024 (the "DSEIR"), and the large-scale development contemplated by the UC Regents and UCLA in the LRDPA. I am writing this letter as an individual as a longtime member of the community, and on behalf of Levering Arms Apartments, LLC, Brent Manor Apartments, LLC and Gayley Manor Apartments, LLC.

My father immigrated to this country in the 1940s to escape the oppressive Soviet government in Iran. He built a couple of apartment buildings in the Westwood community because he felt that the US and California offered a place you could do business within the rule of law – he died many years ago but he would be so saddened to see the state of affairs today where the UC Regents are exempt from all municipal land use regulations, do not provide meaningful notice to members of the community to participate in major decisions regarding their community, and the community of Westwood is being steamrolled by new proposed developments, some of which literally tower over the neighboring properties in the community. Needless to say, I am very disheartened by the process, procedures and substance of the DSEIR and LRDPA. 1

1. Public Involvement. As you know, UCLA is proposing building approximately 6,900 beds by 2025, which represents a huge increase over the number of beds currently offered at UCLA dorms and apartments. In fact, UCLA is proposing to construct approximately 1,715,000 square feet of new facilities. These are material, significant issues. With such a dramatic expansion of UCLA's housing and land footprint, it is surprising that UCLA has done nothing – I repeat, nothing – to meaningfully engage with the public on this important issue. 2

UCLA notes in the DSEIR that UCLA hosted a public scoping meeting at the UCLA Carnesale Commons on May 31, 2017 (the "Scoping Meeting") to describe the proposed Project, to answer

questions, and to seek public input regarding the proposed scope of the Draft SEIR analysis. UCLA further notes that "a notice for the scoping meeting was sent out with the NOP and the meeting was also advertised on the UCLA Capital Programs website". How were nearby property owners and members of the community supposed to find out about the Scoping Meeting? Until last month I had not even heard of the UCLA Capital Programs department. Am I supposed to magically know to check a website for a department I have never heard of for such information? As for the Notice of Preparation, that was also not sent to property owners in the Westwood area as noted in Appendix A of the DSEIR, which clearly shows that this was only sent to governmental agencies, not property owners or other people in the Westwood area. The lack of meaningful public outreach can be seen by the number of people who attended the Scoping Meeting: one (1) person. That's right – 1,715,000 sq. feet of development and only one person showed up. UCLA holds itself to the highest ethical standards, and even has an Ethical Standards for UCLA Employees, which states that "we are responsible for upholding the public trust"[1], yet here UCLA did the bare minimum and has clearly broken that sacred trust. UCLA could have sent out letters to property owners in the nearby community to solicit public input – it did not, because UCLA wants this project approved without any real public involvement. 2 cont.

It is noted in the DSEIR that five (5) meetings were held between UCLA and the Westwood Hills Property Owners Association ("WHPOA") as if this is true evidence of public input and involvement. Yet UCLA held these meetings because UCLA is proposing to violate the terms of the 1978 Stipulated Agreement of Compromise and Order between The UC Regents and WHPOA entered by the Los Angeles Superior Court (the "Stipulated Agreement") by proposing to develop the Lot 15 Site, as further discussed below. So, other than the WHPOA and regulatory bodies, nobody in the Westwood community would have had notice of the Scoping Meeting or even the September 26, 2017 public comment meeting (the "Comment Meeting"), which, again, was only advertised on the UCLA Capital Program website. Moreover, at the Comment Meeting I asked you if you or your staff would answer any questions – you said "yes" initially, and then proceeded to not answer any questions. Again, no real public input was received and no dialogue was established with the public. UCLA has done this intentionally. And it is a betrayal of the public trust UCLA espouses in its own ethical standards. 3 4

2. The Lot 15 Site and Stipulated Agreement. UCLA is proposing to build 1,800 beds at the Lot 15 Site. The Stipulated Agreement that was entered into by UCLA and the WHPOA reserved the Lot 15 Site for "benign" uses. It is clear that the construction of 1,800 beds in 8 and 9 story structures is not "benign". However, UCLA argues that the construction is permitted because the Stipulated Agreement provides that the use restriction remains in effect until "there has been a substantial change of circumstances within the University as to warrant a modification" (see page 4.9-27 of the DSEIR). UCLA argues that UCLA has developed more facilities and dorms since 1978 and this constitutes a change of circumstances warranting a modification of the Stipulated Agreement. If UCLA is so concerned about its lack of developable land, why did it develop the following recent projects instead of using those areas for housing? 5

(i) Luskin Conference Center, constructed in 2016 (294,000 sq. ft.);

(ii) Wasserman Football Center, constructed in 2017 (75,000 sq. ft.); and 6

[1] https://www.finance.ucla.edu/corporate-accounting/controls-and-accountability/ethical-standards-for-ucla-employees

(iii) Mo Austin Basketball Center, constructed in 2017 (35,000 sq. ft.).

The total square footage of these developments is approximately 404,000 sq. ft. To put that into context, the Lot 15 proposed site is estimated to be 353,000 sq. ft. It seems strange that UCLA is so quick to violate legally-binding agreements like the Stipulated Agreement when it previously had space located in the heart of campus to construct this housing supply – yet instead it chose to develop non-housing, athletic and hotel uses at those locations. As such, when UCLA cites in the EIR on page 4.9-29 that "'changes in circumstances'" are identified above and "primarily relate to the lack of remaining development options in the Northwest zone, or in other campus zones identified for student housing, to accommodate the future unmet need for student housing", it rings hollow given UCLA's decisions to use scarce land resources for non-housing and non-essential developments like new football facilities. The WHPOA entered into the Stipulated Agreement with the UC Regents – it seems the UC Regents are once again going back on their word, another example of an ethical failing.

UCLA's assertion that "With this ongoing development, the availability of developable, on-campus parcels has narrowed as new and/or redeveloped facilities have been constructed to meet UCLA's teaching, research, and public service mission; to accommodate increased enrollment levels; and to maintain the campus' position as a top tier higher education institution." How exactly do basketball and football facilities and for profit hotels serve any of these goals? They are not classrooms, they don't serve the public mission, they do nothing for educational capacity and do not accommodate increased enrollment levels. UCLA has used its own limited space to further revenue-generating enterprises – it cannot now say that it doesn't have enough room. The hypocrisy would be laughable if it was not so awful.

6 cont.

Moreover, UCLA attempts to further justify its proposed modification of the Stipulated Agreement because UCLA argues that it complied with the provisions of the Stipulated Agreement requiring that UCLA "address community relations procedures through meetings with the campus' surrounding communities and property owners". As noted above, other than meeting with the WHPOA, UCLA has shown no real effort to engage the public. Other than the WHPOA, other regulatory agencies and one (1) attendee at the Scoping Meeting, where was the public input and outreach? Almost all of the comment letters received by UCLA were from WHPOA members or residents or from regulatory bodies. For UCLA to say it has complied with this requirement is a material misstatement and a betrayal of the public trust.

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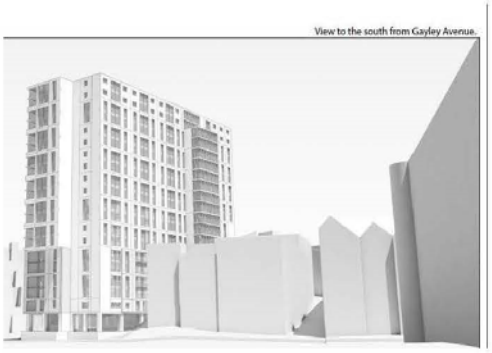
3. The UNEX Site Structure – A Monstrosity. UCLA has proposed to build a 20 story structure at the current location of the UCLA Extension Offices located at the corner of Le Conte Ave. and Gayley Ave. There will be 1,350 beds at the site with multiple structures for a total of 350,000 square feet. The tallest structure will be 20 stories, and approximately 565 feet tall. Despite the DSEIR's comments to the contrary in Section 4.1 of the DSEIR, the UNEX development will be dramatically out of character with the surrounding community. A picture tells a thousand words they say, so here is UCLA's own massing projections for the UNEX Site:



The UNEX project is the giant tower in the above image – what look like tree-trunks in comparison are the neighboring properties. Any reasonable person can tell that the proposed project is wholly out of character with the neighboring community. UCLA is quick to point out in the DSEIR that SB 743 makes infill projects located in transit oriented zones exempt in certain cases from aesthetic reviews – that does not make what UCLA is proposing to build on this site acceptable from a community relationship or ethical perspective. UCLA has benefited from Westwood, and Westwood has benefited from UCLA. But to erect a tower that dwarfs neighboring properties is a clear sign of the lack of respect that UCLA has for the Westwood community.

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UCLA notes in the DSEIR that:

> "the proposed housing project would be ***visually consistent*** with the urban aesthetic character of the area and, as viewed from this entry, which has distant views that extend to high-rise buildings along Wilshire Boulevard to the south and further east on Le Conte Avenue, to the residential uses west of Levering Avenue located at higher elevations, and along Westwood Plaza into the campus" and "that the proposed housing project at the UNEX site ***would not substantially degrade the existing visual character or quality of the site and its surroundings as viewed from adjacent on- and off-campus vantage points.***"

The claim of visual consistency is clearly rebutted by the image above of the massing projections for the UNEX Development. Furthermore, this towering monstrosity clearly degrades the visual environment of the area, as the neighboring properties are dwarfed, making the UNEX Development the visual representation of the dominating, unreasonable and uncooperative UCLA and UC Regents.

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Moreover, the effect that the UNEX Development will have on the view of the Fox Theater tower, which is the most recognizable Westwood landmark and a Historic Cultural Monument in the City of Los Angeles, has been categorially dismissed:

> "None of the known or potential historic resources are directly adjacent to the UNEX site, and while the new development would be visible from each of the resources, each is sufficiently distant from the UNEX site so that the new development would not materially impact any aspects of their integrity."

Notably, none of the views of the UNEX building and photos thereof in Section 4.1 of the DSEIR were taken with the Fox Theater in mind and its line of sight relative to the proposed UNEX Development. Moreover, no massing photos were taken with the Fox Theater in mind either. Below shows a picture of the iconic Fox Theater tower and a map image of its relation to the proposed UNEX Development.

8 cont.

UCLA Extension
Chevron
In-N-Out Burger
UNEX SITE
Gayley Ave
al's Deli
Habibi Cafe
Starbucks
Broxton Ave
Diddy Riese
FOX THEATER
Aveda Institute
Los Angeles

8 cont.

As you can see, the UNEX building is minimally visible at this time from the epicenter of Westwood Village at the intersection of Weyburn Ave. and Brockton Ave. However, the proposed UNEX Development will be taller, more prominent and likely obscure the landmark view of the Fox Theater tower. This needs to be taken into consideration as well, and UCLA, true to form, has ignored nearby community assets at the expense of its desire to do whatever it wants.

If UCLA wants to build a giant structure like the UNEX Development on UCLA's main campus and ruin its own aesthetics, that is one thing – but to do this in the "Bridge Zone", surrounded by private property owners (who are held to the City of Los Angeles's 45 foot height limitation) and cultural landmarks like the Fox Theater, is essentially a giant middle finger to the Westwood community that has housed, fed and serviced UCLA's student population for the past 80 years.

8 cont.

UCLA will of course say that it has run out of development-sites on the main campus, thereby necessitating such a large-scale dense development in the "Bridge Zone". As noted above, this argument falls flat when anyone critically examines UCLA's building spree over the past several years of new hotels, basketball facilities and football training facilities. UCLA does operate in a land-

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constrained dense urban setting, and if UCLA chooses (poorly in my opinion) to use its preciously scarce land to build basketball gyms, football facilities and hotels, that is UCLA's own fault and it should not tear apart the fabric of the Westwood community by developing out-of-character monstrosities like the UNEX Development to compensate for its misuse of its land on the main campus. If UCLA is concerned about its students, why didn't it prioritize building housing on the main campus before hotels and sports facilities? Maybe the lucrative world of sports come before the students' housing needs? Maybe this is an honest conversation that UCLA should have with its student body and the UC Regents. But it is unfair that the Westwood community is the one that will bear the burden of these planning mistakes.

9 cont.

UCLA is also clearly disregarding its own Practices, Programs and Procedures with the proposed UNEX Development. PP 4.1-1(a) states that:

> "the design process shall evaluate and incorporate, where appropriate, factors including, but not necessarily limited to, ***building mass and form***, building proportion, roof profile, architectural detail and fenestration, the texture, color, and quality of building materials, focal views, pedestrian and vehicular circulation and access, and the landscape setting ***to ensure preservation and enhancement of the visual character and quality of the campus and the surrounding area***. Landscaped open space (including plazas, courts, gardens, walkways, and recreational areas) shall be integrated with development to encourage use through placement and design."

Again, no reasonable person could say that the UNEX Development depicted in the massing image above preserves or enhances the visual character of Westwood Village. It does the opposite – it overshadows the community and is wholly out of character with the neighboring sites. UCLA's DSEIR states that Threshold 1.3 is a "less than significant" impact after incorporating PP 4.1-1(a). As noted here, PP 4.1-1(a) has not been complied with in the current renderings of the proposed UNEX Development so this finding of "less than significant" is unjustified and I strongly oppose UCLA's findings on this issue.

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The DSEIR does address the issue of building elevations when it discusses (4.9-35) that the "the proposed buildings at the Lot 15 site [the one on Veteran Avenue] would be well within the current building elevations of surrounding [on campus] buildings." If elevation is a factor on Lot 15, why should it not be a factor at UNEX as well where the elevation disparities are much greater? The DSEIR conclusion: no significant impact on "land use and planning," is obviously self-serving – anyone can see that the proposed UNEX Development is too tall, too dense and too imposing in relation to the neighboring community.

UCLA attempts to further justify the egregious height of the UNEX Development as follows:

> "Further, the UNEX building would be 185 feet shorter than the approved and entitled Wilshire-Gayley project that will be developed at the northwest corner of Gayley Avenue and Wilshire Boulevard." (4.1-21)

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> "Notably, even though the proposed building at the UNEX site would be 20 levels, this is not out of character with other buildings in Westwood Village and along the Wilshire corridor." (4.9-26)

Comparisons are often useful, but UCLA is truly stretching the bounds of comparative credibility here. The Wilshire-Gayley project is three (3) to four (4) blocks away, and is located across the street from 15-20 story buildings. There are no such buildings in the northwest or even the central part of Westwood Village. Moreover, the W Hotel and 930 Hillgard Ave. projects are not located directly in line with historic monuments like the Fox Theater, making them poor comparisons. I would appreciate it if UCLA would be honest about the UNEX site and its surrounding environment: it is too tall, it dwarfs the neighboring properties, and will be an out-of-character stain and eye-sore for the community.

11 cont.

Lastly, UCLA notes in its PP 4.8-1(a) that:

> "Development of the south edge of the main campus shall be designed ***to enhance the campus interface with Westwood Village***. (Applicable to UNEX site only)"

And in Section 4.9.2, UCLA states that:

> "The primary objective of the Existing LRDP is to establish a land use plan that represents the best possible relationship among UCLA academic goals, faculty and student needs, site characteristics, and ***integration with the surrounding community***."

Again, the UNEX Development has not "enhanced" the campus interface with Westwood Village – as currently rendered, the proposed UNEX Development expressly disregards the aesthetics and community of Westwood Village, as it is too tall and too dense.

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In short, I strongly disagree with UCLA's contentions that the UNEX Development will have a "less than significant" environmental impact, and I specifically object to the findings in Threshold 1.3 that "no mitigation measures" are required and of "no impact" in Thresholds 9.1 (this clearly divides the Westwood community – the structure is a symbol of division) and 9.2 ("less than significant" impact) and Thresholds 9.3 ("no impact") and 9.4 ("less than significant" – noting that "While the buildings would be visible from these and other vantage points in Westwood Village, a change in the viewshed would not result in an incompatibility between the proposed housing project and off-campus uses". This such a gross misstatement – just look at the pictures).

DSEIR has failed to acknowledge these material significant impacts from the UNEX proposed development. UCLA is not excused from providing a meaningful analysis of its development, and is has failed at that task here. This is just one example of such failures.

I strongly oppose this development – it is a slap in the face to the Westwood community. UCLA is remodeling the Margan Apartment building nearby without demolishing it – that should be the approach at UNEX as well. Let Westwood maintain some of its dignity and maintain the precedent of 45 foot height limits.

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4. UNEX Site – Paramedic Traffic; Pedestrian Risks. UCLA has completely ignored the location of UNEX in one other critical respect, namely that it would be introducing 1,300 students to an intersection which is trafficked heavily by paramedic vehicles serving UCLA Ronald Reagan hospital. This would disrupt emergency vehicle operations and lead to accidents with pedestrians and students. Putting 1,300 people right next to a hospital ingress-egress route intersection is a bad idea. Because it would have an adverse effect on response times, UCLA cannot simply dismiss this issue as it has so summarily done in its finding of Threshold 12.2 of "less than significant" and Thresholds 12.4 and 12.5 of "no impact". Moreover, the finding of "less than significant" for Threshold 13.4 and 13. 5 is also ridiculous because the UNEX site would clearly lead to a dangerous intersection, and add a material number of pedestrians that will impede emergency vehicles' access to Ronald Reagan Hospital. In fact, according to an analysis by the Auto Insurance Center[2], Los Angeles is already the most dangerous city in the country for pedestrians – this UNEX site would solidify that dubious top ranking. Does UCLA really think that adding 1,300 students who are glued to their cell phones to a major intersection with emergency vehicle traffic is a good idea? If so, UCLA should take a trip to Ronald Reagan medical center to get is collective brain examined. By failing to address the emergency vehicle ingress and egress from Ronald Reagan Hospital vis-a-vi the UNEX site, the DSEIR fails to fulfill its responsibilities to impart relevant information to the general public, as required under CEQA. 14

5. Water Pipes; Sewers. UCLA is proposing adding a substantial number of beds as part of the proposed Project, with a corresponding increase in water demands. In a description of each proposed development site in Section 3 of the DSEIR, there is short summary statement: "No new or expanded water lines, beyond the installation of on-site facilities that would connect to existing water lines would be required" (3.16-2-20). Has UCLA not learned from the July 2014 flood that was precipitated by a broken LADWP water main? In that incident, UCLA submitted claims for approximately $13MM for losses incurred due to the flooding. Nowhere in the DSEIR is an analysis performed or proposed for evaluating the physical condition of the actual City Water lines that the new water lines will connect into as part of the proposed Project. This is a key oversight, and according to the Daily Bruin reporting, LADWP has not implemented any upgrades to its water infrastructure.[3] UCLA should therefore be required to first analyze the existing City water lines to judge their physical condition[4] and see if LADWP needs to first upgrade those lines or insert new lines to prevent future damages like those seen in 2014. In addition, the DSEIR notes in multiple places that "based on monitoring data" the existing sewer lines have capacity to serve the proposed sites – where is this analysis? UCLA needs to make sure this issue is properly analyzed. As such, the findings in Thresholds 14.1-14.5 of "less than significant" are all insufficient and inadequate because the DSEIR does not identify the ongoing significant impacts that affect the City's water resources . 15 16 17

6. Metro Expansion – The DSEIR does not engage in any meaningful analysis of the Metro expansion of the subway line which is expected to have stops at the following locations: (i) Westwood/UCLA (Westwood/UCLA OnStreet or Westwood/UCLA Off-Street) and (ii) Westwood/VAHospital (Westwood/ VA Hospital South or Westwood/VAHospital North)[5]. The 18

[2] https://www.autoinsurancecenter.com/the-worst-places-to-be-a-pedestrian.htm
[3] http://dailybruin.com/2015/08/03/ladwp-lags-in-improving-underground-infrastructure-after-ucla-flood/
4 This is in contrast to the PSOMAS Water Supply Assessment, which does not include a review, assessment or analysis of the LADWP maintained pipe infrastructure.
[5] http://media.metro.net/projects_studies/westside/images/final_eir-eis/Executive%20Summary%203-19-12.pdf

EIR seems to pay lip service to the proposed extension of the subway line, but doesn't delve into how that extension would impact the proposed development, traffic patterns or vice versa (*i.e.*, a missing cumulative effects analysis). By failing to address the Metro expansion, the DSEIR fails to fulfill its responsibilities to impart relevant information to the general public, as required under CEQA. 18 cont.

7. Alternatives and Environmental Setting. The DSEIR insufficiently explores alternative ways of providing student housing.

(A) *Available Space* – UCLA has not presented an up-to-date analysis of why the increased development it is considering cannot take place on the main campus zone instead of at the UNEX and Warren Hall Sites. UCLA needs to provide an up-to-date survey of all available space on its campus – if UCLA wants more housing it must consider constructing it on its own main campus. And it needs to seriously consider this alternative to comply with California law – it has so far failed to do so. Whether this is intentional or unintentional is unclear but the result is the same: UCLA must prioritize development on its own campus or at the very least consider this alternative and provide substantive analyses from independent third parties of the suitability of all other open space on campus. Because UCLA has so brazenly ignored the aesthetics of at the proposed UNEX Development, clearly aesthetics can be thrown out the window. Maybe a new project with 1,300 beds (9 and 20 story structures) should be built on the quad in front of Royce Hall? UCLA owes the public and Westwood community an honest accounting of its open space. Without such an updated accounting, UCLA has failed to fully explore feasible alternatives to its proposed development project. The summary in Section 5.3.2 of the DSEIR is wholly inadequate as it does not discuss remaining open spaces on campus – rather it speaks of the existing pipeline of construction, which, without any comparison to the overall space on campus is a number in a vacuum and effectively useless. 19

(B) *Private Sector* – At present more than sixty five percent (65%) of students are housed by the private sector. A plausible solution to providing additional student housing would be for UCLA to engage in a partnership with private housing suppliers in the west and northwest Village areas. Underdeveloped properties in this area could be developed with greater density to provide affordable housing if the City of Los Angeles would lift the onerous restrictions on development in this apartment-rich neighborhood. UCLA could use it considerable clout and prestige with municipal leaders to create a specific plan for this area that accommodates and incentivizes the construction of affordable, privately-owned student-centric housing. Such a partnership may not produce all the housing UCLA says it needs. But it could provide a substantial portion of it at prices that would be competitive with university construction costs. 20

UCLA, however, has not explored this option at all. It has only explored options that involve UCLA's purchase of currently privately-owned properties. In effect, UCLA can only envision a future in which it increasingly monopolizes the student housing market. Is this short-sighted? Has UCLA done a marketing analysis that supports the thesis that 5,000 more students would prefer to live on campus? No, it has not. Instead UCLA is content to barge ahead with plans to cram as many students as possible into unimaginative and sterile living environments on a campus that is actually quite dense.

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With the arrival of Metro Rail and the advent of remote learning possibilities[6], the highly centralized campus of the future envisioned by the LRDP may actually be an anachronism by the time it is built. These possibilities have not been studied adequately by this tunnel-vision DSEIR. In short, the DSEIR does not comply with the spirit of a serious environmental review because it fails to explore alternatives to its edifice complex. 21

(C) *Other Alternative Concerns.* In Section 5 of the DSEIR UCLA makes a haphazard attempt at discussing alternatives to the proposed project. First off, UCLA makes a grand statement without any substantiation that off-campus development would not decrease vehicle trips. This ignores of course the fact that many private sector apartments are located within walking distance to UCLA. Moreover, there is no discussion as to whether or not UCLA has surveyed its student body to confirm that building no parking spaces means those students will not bring cars to Westwood and park on the street, thereby further straining an already severely constrained parking supply in the community. UCLA must show some evidence of these assertions in order to meet its legal requirement under CEQA to fully explore alternatives and their implications. 22

(D) *Alternative 2.* Apparently UCLA cannot see the value in preserving the Warren Hall historic site (both due to its contribution to science and architecture) and working within its goal of adding housing under Alternative 2. While this alternative would net 200 beds, UCLA disapproves because it does not max out capacity. It would be nice if UCLA could take history, architecture, aesthetics and the community into account when it makes this decision – Warren Hall can be preserved while still adding beds to the University's housing supply. 23

(E) *Higher Learning Institution.* UCLA has made a decision that it is in the best interest of the community for UCLA to provide all housing to its students. As with any governmental entity, it believes it is the master of all solutions. This begs the question – if UCLA is going to use all of its space to develop luxury style apartments for its students what is the purpose of UCLA? Shouldn't UCLA be building more classrooms and research facilities? Isn't UCLA an institution of higher learning and not a taxpayer subsidized resort-style housing retreat for 18-21 year olds? It seems UCLA has lost touch with the values that made UCLA a prominent university: its focus on research and learning. As a public institution funded by taxpayers, UCLA should take this opportunity to critically evaluate its role. There has been no alternative analysis provided that would show what adding additional classroom and professor capacity and supply would like, potentially allowing students to graduate faster. And this has a real effect on the research capacity of the university. For example, UCLA notes that the relocation of the Warren Hall faculty/research is now possible because of the addition of the Ronald Reagan Hospital and Terasaki Life Sciences Building. But what if UCLA allowed Warren Hall to operate as is and added new research institutions to the hospital and Terasaki building, thus adding to the research and learning capacity of the university? UCLA should be focusing on research and learning. 24

[6] https://www.wsj.com/articles/colleges-rush-to-ramp-up-online-classes-1493575200

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(F) *No Project Alternative.* Rather than truly evaluate the no-project alternative, UCLA simply dismisses it as infeasible. The DSEIR presents no information regarding other options available to the UC Regents in satisfying increased enrollment other than adding additional demands on UCLA. Therefore, the DSEIR does not adequately address the project alternatives of reduced or no additional growth. UCLA has therefore engaged in a misleading and unlawful analysis of this alternative by rejecting it in such conclusory fashion. In short, the DSEIR does not provide an honest analysis of the advantages and disadvantages of an alternative decision to maintain the current facilities and enrollment at current levels. 25

8. Construction Assumptions – The DSEIR makes a number of assumptions regarding the net export of demolition materials and soils for grading activities. These estimates are detailed in Table 3-7 of the DSEIR. These projections are overly optimistic and the 15% timing contingency being built in by UCLA is not sufficient. For starters, UCLA's housing construction has been materially delayed in the past, such as in the construction of Phase I at the Weyburn Terrace Complex[7]. Due to the high level of construction currently occurring in the Los Angeles area, there is already a shortage of construction workers and supply[8], which means that UCLA's projections about the timeline for demolition, grading and construction are far too optimistic and need to be revised to take into account market forces in the Southern California area. UCLA must consult with economists and construction experts to delve deeper into this issue, as the construction timeline implicates other issues, including, but not limited to, greenhouse gas emissions, and prepare an analysis of the timeframes that is in line with the reality of the construction labor market at this time. 26

9. Air Quality. On Page 4.2-10 of the DSEIR, UCLA estimates construction and operations mass daily emissions. I disagree with some of the assumptions involved in the analysis, including, but not limited to, the failure to include all emission types in the analysis (such as SO2 emissions, which are summarily described as "negligible" without any proof), the contention that some painting VOC emissions were calculated manually (without any explanation as to the assumptions and criteria that derived these calculations). In addition, I challenge the assumptions on vehicular traffic and the findings of Crain and Associates study in Appendix A. For starters, the idea that students are currently all commuting to UCLA ignores the fact that many students currently reside in privately-owned apartments located within walking distance of the school, so the net reduction in vehicular trips is overly optimistic. In addition, there is no evidence in the DSEIR that supports UCLA's contention that it will be able to hire all 145 staff positions added by the proposed Project from the "local labor pool". UCLA needs to justify that assertion with studies of its own internal employee workforce to show where its employees commute from. 27 28 29 30

Threshold 2.2 (Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?) is also based on unrealistic assumptions. First off, as discussed previously, the construction timelines for the proposed Project including the 2021 and 2022 completions of the Lot 15 and Warren Hall sites are too optimistic in light of prevailing construction labor shortages. Moreover, demolition would be slated to begin in 2022 for the Drake site. Again, given labor shortages, UCLA is too optimistic that there would be a gap between the UNEX, Lot 15 and Warren construction and the demolition and construction of the Drake and Bradley sites. 31

[7] http://dailybruin.com/2004/09/29/weyburn-terrace-suffers-delays/
[8] https://www.scpr.org/news/2017/08/29/75139/more-evidence-of-the-construction-worker-shortage/

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Therefore, it should be expected that there will be overlap between the 2 construction periods, and thus the interim combined construction and operational emissions in Table 4.2-9 does not take this into account. As such, UCLA's contention that the combined NOx emission would not exceed SCAQMD's standards prior to the grading of the Bradley site is unrealistic. Moreover, the mitigation features being presented by UCLA for the Bradley site are not specific enough and do not include what, if any, contractual enforcement provisions and standards or monitoring efforts would be put in place to ensure that the emissions are below the stated threshold and lead to the 53 pounds per day total emissions per day. Given that the threshold is 55 pounds per day, UCLA needs to provide more specific information about the type of equipment to be used and the aforementioned contractual specifications and monitoring mechanisms. Without such added analysis, specifications and a realistic construction timeline, UCLA's assumption that the impact of Threshold 2.2 will be "Less than significant" is misguided and challengeable. I challenge these assertions here. 31 cont.

With respect to Threshold 2.3, UCLA's assumptions again ignore the construction timeline issues in its cumulative emissions analysis. Notably, UCLA again assumes no overlap between the construction of the Lot 15, Warren Hall, UNEX sites and the construction/demolition of the Drake and Bradley sites. Again, as noted above, this is an unrealistic assumption given construction labor shortages in LA-area and UCLA's history of past project delays. Moreover, UCLA readily admits in the DSEIR (4.2-23) that even with its implementation of its mitigation measures there would be a cumulative increase of 0_3 which is a pollutant for which LA County is in non-attainment with SOCAB – UCLA seems to not care about this issue, as it describes it as a "significant and unavoidable impact". Has UCLA considered expanding the timeline of its development process so that there is less overlap of construction? Apparently not, but that would seem to go a long way towards reducing cumulative impact emissions – this is something UCLA should consider. UCLA seems to feel similarly about operational emissions, which would also be elevated above local threshold levels indicating UCLA's disregard for the environmental impact of its development. As a University that describes itself as forward-thinking and ethical, UCLA needs to reconsider this development. 32 33

With respect to Threshold 2.4 (Would the project expose sensitive receptors to substantial pollutant concentrations?), again, UCLA's analysis uses an overly optimistic construction timeline to determine whether certain thresholds are met for emissions. As noted above, due to market forces, labor and supply shortages and delays, UCLA needs to factor in more overlapping construction timeframes to provide a realistic cumulative emissions impact analysis. Without such an update, the NOx, CO, PM10 and PM2.5 emission projections are insufficient. Has UCLA considered expanding the timeline of its development process so that there is less overlap of construction? Apparently not, but that would seem to go a long way towards reducing cumulative impact emissions – this is something UCLA must consider. 34

10. Biological Resources. UCLA's DSEIR largely relies upon the March 2009 LRDP Amendment Final EIR ("2009 EIR") in its analysis of biological resources at the proposed Project sites. Global warming has accelerated since 2009[9] and any analysis of the eco-system at UCLA needs to take into 35

[9] https://www.theguardian.com/environment/2016/aug/30/nasa-climate-change-warming-earth-temperature-warming

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account changes in migratory patterns of birds and other species as a result of climate change.[10] UCLA notes in the 2009 EIR and the DSEIR that:

> "No special status plant or wildlife species have the potential to occur in developed or ornamental areas on the UCLA campus, and at the project sites, due to lack of suitable habitat."

Again, this ignores that species may have relocated to campus and surrounding areas due to global climate change. For these reasons, focused surveys need to be required for each of the project sites to take into account changing climate and corresponding migratory issues. As such, the analyses of Thresholds 3.1-3.6 and the cumulative impact analysis are insufficient without updates and focused surveys to take into account climate change and its effect on species migratory, nesting and behavior. 35 cont.

11. Cultural and Tribal Cultural Resources. UCLA has noted in the DSEIR that it will be demolishing Warren Hall, and UCLA admits that the building qualifies as a historic resource. Warren Hall was the situs of the biomedical research funded by the Atomic Energy Commission, and is where nuclear medicine was invented. Moreover, the building is well maintained, an embodiment of Midcentury Modern architectural style, and is able to convey historic and architectural significance. UCLA has proposed mitigation of the destruction of this historic site by documenting the building (MM Hist-1) and commemorating its role in the history of nuclear medicine through a "publicly accessible interpretive program". These measures fall short. UCLA may not care about the Fox Theater or other historical assets in the neighboring Westwood community, but it should care about its own. Demolishing a building of Warren Hall's significance – one where nuclear medicine was invented and which retains architectural significance – and putting up apartments is beneath the high academic and ethical standards UCLA (allegedly) holds itself to. This building should be preserved, and UCLA can still add graduate beds at this site. It is clear UCLA has not truly considered this alternative because it would lead to a lower bed count, which is seemingly all UCLA cares about – forget history, forget the public, just focus on becoming a high profile real estate developer seems to be UCLA' thought process. This myopic thinking is dangerous for a public university, and the mission of serving the public is taking a clear backseat to the development desires of UCLA. UCLA is correct that this is a significant environmental impact – the question is whether or not it is "unavoidable". It is of course avoidable, as UCLA could renovate and repurpose the interior of the building to accommodate graduate student beds while preserving the historic and architectural nature of Warren Hall. 36

Moreover, UCLA contends that the current UNEX building is not eligible for designation as a historic resource based on the findings of a Page and Turnbull Inc., study. The study is littered with entirely subjective analysis from Page and Turnbull. UCLA should not demolish this site. 37

12. Drake Location – Landslides; Earthquakes; Costs. UCLA admits in the DSEIR on page 4.5-13 that the Drake site is identified within a potential landslide hazard area (susceptible to landslide during an earthquake). UCLA is carelessly subjecting its student body to such risk. I strongly disagree with the contention in Threshold 5.2 that the Drake site has no impact – it does, and UCLA's students will feel that way if there is an earthquake. The housing program at the Drake Stadium site has been 38

[10] http://www.npr.org/sections/13.7/2017/04/27/525830183/climate-change-and-shifts-in-the-migration-patterns-of-birds

considered in the last five years, but was not seriously pursued previously due to construction costs associated with building over the concourse and the necessary structural reinforcements. UCLA is now pursuing development of this site notwithstanding the additional costs. Taxpayers foot the bill per usual with no regard to cost – must be nice to have unlimited funding without accountability. 38 cont.

13. Greenhouse Gas Emissions. On page 4.6-16 and Table 4.6-1 UCLA amortizes its estimated construction greenhouse gas emissions using a 30-year period. This of course underscores the true output of the greenhouse gas emissions. Even incorporating this misrepresented total figure of GHGs (*i.e.*, with amortization of construction emissions) leads to a result in which total GHGs exceed the SCAQMD threshold (5,663 vs. 3,550 MTCO2e/year). UCLA then makes the leap that "large project" analysis should be used, allowing it avoid the residential standards. So UCLA makes its emissions appear in compliance with regulatory requirements by manipulating amortization schedules and then using large project criteria to avoid residential development requirements. I object to these assumptions, analyses and manipulations. The analysis must be updated to include non-amortized construction figures and residential development criteria. Lastly, UCLA completely disregards a cumulative impacts analysis (page 4.6-22) by saying that no individual project would lead to an impact on global climate change. This ignores what a cumulative impact analysis is by definition – all of the projects *combined* must be evaluated. UCLA has failed to do that, and any finding of no impact is thus unfounded and unsubstantiated. 39, 40, 41

14. Arsenic and USTs. It appears from UCLA's own findings (p. 4.7-3) that arsenic was discovered at the Lot 15 site. UCLA should not construct student housing over arsenic-laced soils. UCLA must also provide copies of the No Further Action letters for the LUST sites at 900 Gayley Avenue and 10984 Le Conte Ave to verify that those leaking underground storage tanks have been remediated and have not infiltrated the UNEX site. 42

15. Cumulative Impacts – Land Use and Planning. This analysis in the DSEIR attempts to justify the out of character Warren and UNEX proposed developments by noting in Section 4.9.4 that: 43

> "It is anticipated that cumulative off-campus development would result in changes to the existing land use environment in the area through ***the conversion of vacant land and low-density uses to*** higher density uses, or through conversions of existing land use ***(e.g., from residential to commercial). However, it is assumed that future off-campus development would be (1) consistent with applicable City of Los Angeles General Plan and zoning requirements*** or subject to an allowable exception and (2) further subject to CEQA, mitigation requirements, and design review. Additionally, future development on campus under the Existing LRDP (174,615 gsf remaining development allocation) would be implemented in compliance with the PPs and MMs outlined in the March 2009 LRDP Amendment Final EIR, which have been developed to reduce potential impacts to existing uses (on and off campus) to less a less than significant level. ***Therefore, it can be assumed that through these requirements, future development would be compatible with existing land uses.*** However, it is possible that significant impacts

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related to land use compatibility might occur with respect to one or more of the related off-campus projects (or unknown future projects permitted in the area) due to specific issues associated with these projects or their location. Even if the cumulative impact of these projects would be significant, the contribution of the proposed housing projects to such cumulative land use impacts is ***less than significant and is thus not cumulatively considerable because the proposed housing projects would be compatible with the land uses that surround it, in light of the continuation of the existing residential land uses. This is considered to be a less than significant impact.***"

43 cont.

UCLA knows that there is a 45 foot height restriction in Westwood, so how does it then assume that the properties in the area will be developed in a manner that would ever lead to a height consistency with the 545 foot UNEX structure? This is an unfounded assumption contrary to existing municipal law in Los Angeles .

16. Traffic Operations. Per the Department of Transportation's letter to UCLA on June 5, 2017, the level of service (LOS) traffic analysis that UCLA has prepared in the DSEIR is insufficient and must be replaced with a vehicle miles travelled (VMT) analysis. As such, the findings in Table 4.13-1 are insufficient as are all of the findings with respect to Thresholds in 13.1-13.6. This is a major flaw in UCLA's DSEIR. Moreover, as discussed in great detail previously, the construction timelines prepared by UCLA are unrealistic and must be revised – as such, the number of car trips and time periods on pages 4.13-19 and 20 and in Table 4.13-3 must be disregarded and re-analyzed. Moreover the proposition on page 4.13-21 that no overlap of construction activities would occur vis-a-vi the Bradley and Drake sites is unrealistic because of delays, labor and supply shortages and other factors. UCLA's analysis is far too optimistic. The MM TF-1 is insufficient, and the assumption of a 25% discount on page 4.13-22 for UCLA employee public transit is not based on any facts or data that UCLA has made available. As such, it is an unsubstantiated assumption. Lastly, the perfect construction timeline of UCLA is again used to justify no cumulative impact to transportation operations – again, these assumptions are unrealistic and must be modified to reflect market realities and supply and labor shortages.

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UCLA has truly betrayed the public trust in this DSEIR. It has failed to provide proper notice to stakeholders in the community to receive meaningful public input. It has proposed building a 565 foot tall structure in a neighborhood with a maximum height limitation of 45 feet that will dwarf the adjacent private properties and create an obstruction to the view of the iconic Fox Theater tower. It has ignored the idea of participating with the private sector. It has used up its own real estate by developing hotels and sports facilities instead of housing and now seeks to project this misallocation of resources onto the Westwood community. It is proposing to violate a legally binding order entered into in 1978.

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Moreover, while UCLA has not come out with cost estimates for the development, it can be conservatively estimated that it will cost between $300MM and $750MM depending on a number of factors. UCLA has been in the news recently for the outsized pensions it pays its former employees.[11] A capital expenditure of roughly half a billion dollars should be reserved for institutions that have demonstrated a record of public trust – not those that abuse it financially or in the community. 49

UCLA is a public institution. It should start acting like one.

Sincerely,

Fatemeh Farmy

Brent Manor Apartments, LLC

By: _____
Fatemeh Farmy, Manager

Gayley Manor Apartments, LLC

By: _____
Fatemeh Farmy, Manager

Levering Arms Apartments, LLC

By: _____
Fatemeh Farmy, Manager

CC: Steven Olsen
Kathy Fitzgerald

[11] http://www.latimes.com/local/lanow/la-me-uc-pensions-20170924-story.html

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Response to Comment Letter 3
Fatemeh Farmy
Brent Manor Apartments, LLC
Gayley Manor Apartments, LLC
Levering Arms Apartments, LC
October 9, 2017

1. This comment provides information about the commenter and makes general statements about the proposed Project and UC process and procedures; these topics are further discussed in the detailed comments presented in the letter. The commenter references the Ethical Standards for UCLA Employees, and included a footnote with a link to the UCLA Corporate Financial Services website that discusses those Ethical Standards. No response is required as these comments do not relate to environmental issues or the adequacy of the Draft SEIR; however, these comments will be forwarded for consideration to the decision makers.

2. As discussed in Section 1.3, Public Review Process, of this Final SEIR, as required by Section 15082(a) of the State CEQA Guidelines, UCLA (as lead agency) sent the Notice of Preparation (NOP) for the Draft SEIR to the State Office of Planning and Research (OPR) and responsible agencies to solicit input on the scope and content of the Draft SEIR. The NOP for the Draft SEIR also included the notice of the scoping meeting; however, it should be noted that CEQA does not require that scoping meetings be held. In addition to the CEQA-required NOP distribution to OPR and responsible agencies, UCLA sent the NOP (and scoping meeting notice) to other regional and local agencies, and fourteen organizations and individual community members that have previously requested such notice. The local organizations include, but are not limited, to homeowner and property owner associations and neighborhood and community councils. These organizations share information with their members, as deemed appropriate by each organization.

3. Please refer to Topical Response 3, of this Final SEIR, which addresses the Stipulated Agreement of Compromise and Order (Stipulated Agreement) between the Westwood Hills Property Owners Association (WHPOA) and The Regents of the University of California (Regents).

4. Please refer to Response to Comment 2 above regarding the public notice of the scoping meeting for the Draft SEIR. With respect to the notice for the September 26, 2017 public hearing regarding the Draft SEIR, a Notice of Availability (NOA) for the Draft SEIR, which included the public hearing notice, was distributed to each agency, organization, and individual that received the NOP and anyone that provided a comment on the NOP. Further, the NOA and public hearing notice were published in the Daily Bruin. The purpose of the public hearing was to receive oral comments on the Draft EIR. A court reporter was present to document all comments and questions received; responses to these comments and questions are provided in Section 3.4 of this Final SEIR. This approach is taken to ensure that all comments received and responses to these comments, as presented in the Final SEIR, are provided to the decision makers for their consideration.

5. Please refer to Topical Response 3, of this Final SEIR, which addresses the Stipulated Agreement between the WHPOA and The Regents.

6. This comment addresses the Stipulated Agreement between the WHPOA and The Regents and previous land use decisions made UCLA. Please refer to Topical Response 3, of this Final SEIR, which addresses the Stipulated Agreement, and Topical Response 2, which addresses previous land use decisions made for the UCLA campus.

7. This comment addresses the Stipulated Agreement between the WHPOA and The Regents and the public's involvement in the Draft SEIR process. Please refer to Topical Response 3, of this Final SEIR, which addresses the Stipulated Agreement, and responses to comments 2 and 4, above, which address public involvement in the Draft SEIR process.

8. Please refer to Topical Response 4, which addresses comments raised regarding the UNEX building, including, but not limited to: potential visual impacts, potential impacts to historic resources (i.e., the Fox Theater), and land use compatibility. It should also be noted that the commenter erroneously describes the proposed UNEX building as being 565 feet tall. For clarification, the proposed high-rise building evaluated in the Draft SEIR was 20 stories, which would be approximately 200 feet tall. The top of the building (at the top of the elevator penthouse) was estimated at an elevation of approximately 565 feet above mean sea level (msl). It should also be noted that the high-rise building at the UNEX site has been reduced to 17-stories, or approximately 175_feet tall, as further addressed in Section 2.2 of this Final SEIR.

9. Please refer to Topical Response 2 of this Final SEIR, which addresses previous land uses decisions at the UCLA campus relative to athletic facilities and the Luskin Conference Center. Additionally, Section 5.3.2, Alternative On-Campus Site or Sites, discusses selection of each of the proposed housing sites, including the UNEX site, to accommodate the necessary student housing on campus.

10. This comment addresses the proposed massing and visual characteristics of the UNEX building. Please refer to Topical Response 4, which addresses the proposed UNEX building design, height, and architecture, and Section 2.2 of this Final SEIR, which discusses the current design for the proposed housing project at the UNEX site. The commenter's opposition to the conclusions of the Draft SEIR relative to this issue is noted and will be forwarded for consideration to the decision makers.

11. With respect to the analysis results for the Lot 15 site compared to the UNEX site, the Draft SEIR provides site specific analysis for each proposed building site, taking into consideration the unique visual characteristics for each site. As shown in Table 4.1-1, Lot 15 Site Building Elevations, it is appropriately identified that the proposed elevations of the buildings at the Lot 15 site are within the elevations of the existing buildings in the area. A similar table is provided for the proposed buildings at the UNEX site (refer to Table 4.1-3, UNEX Site Building Elevation), and clearly identifies that the proposed 20-story building is taller than existing buildings. Therefore, the analysis for the proposed UNEX building further discusses the visual character of this building in relation to the surrounding area. The discussion of the approved and entitled Wilshire-Gayley Project is for information purposes only and is not the basis for the conclusion that the proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings. Please refer to Topical Response 4, which addresses comments raised regarding the proposed housing project at the UNEX site, including, but not limited to: potential visual impacts, potential impacts to historic resources (i.e., the Fox Theater), and land use compatibility. Also, refer to Section 2.2 of this Final SEIR, which discusses the current design for the proposed housing project at the UNEX site.

12. Please refer to Topical Response 4, which addresses the compatibility of the proposed building at the UNEX site with adjacent uses. Also, refer to Section 2.2 of this Final SEIR, which discusses the current design for the proposed housing project at the UNEX site.

13. The commenter's opposition to the proposed UNEX building is noted and will be forwarded for consideration to the decision makers. It should also be noted that the UCLA Margan

Apartment building is being demolished and a new building is being developed at this site. The Margan Apartments Redevelopment Project was approved in December 2016. As described on page 4-6 of the Draft SEIR, the existing building will be demolished and a new 62,000 gross square foot (gsf) apartment building is proposed. Construction of this project was initiated in June 2017 (abatement and remediation activities).

14. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including potential conflicts between pedestrians near the proposed UNEX site and emergency vehicles traveling to/from the Ronald Reagan UCLA Medical Center.

15. For clarification, the sizing of water lines and ability of these lines to serve the proposed housing projects is based on pressure flow for fire service and not an increase in water demand. The increase in demand for water is addressed through the preparation of a Water Supply Assessment, which was prepared for the proposed Project, is included in Appendix I of the Draft SEIR, and summarized in Section 4.14 of the Draft SEIR. The WSA concludes that the City of Los Angeles Department of Water and Power (LADWP), which provides water to the campus, has a sufficient and reliable water supply now and into the future, including a sufficient water supply for the proposed Project. With respect to the physical condition of the water lines, the campus has coordinated with LADWP regarding the water line connections for the proposed housing projects. Through its review of the proposed Project, LADWP has not identified the need to upgrade or otherwise improve the existing water infrastructure that would serve the proposed housing projects. The campus would coordinate with the LADWP regarding any repairs or damages that result from those proposed connections during construction. However, the systemwide maintenance and repair of water lines in the City, whether these proposed housing projects are approved or not, is the responsibility of the LADWP.

16. As cited in the discussion of proposed sewer lines, monitoring was conducted by the City of Los Angeles Bureau of Engineering for the UNEX site, and by ADS Environmental Services for the remaining sites. The monitoring data is available for review at the UCLA Capital Programs Office. The commenter incorrectly summarizes the conclusions reached in the Draft SEIR regarding the capacity of existing sewer lines. As discussed in Section 3.5.5, Utility Infrastructure (starting on page 3-16), and Section 4.14, Utilities and Service Systems (starting on page 4.14-17), of the Draft SEIR, the existing sewer lines serving the Lot 15, Warren Hall, Bradley, and Drake Stadium sites are not sufficient to accommodate the increased wastewater generated by the proposed project and upgraded or new sewer lines are required. Based on sewer line monitoring conducted by the Los Angeles Bureau of Engineering for the UNEX site in June 2017, the existing sewer line in Gayley Avenue has sufficient capacity to serve the proposed development; however, a new 8-inch lateral line from the site to the sewer in Gayley Avenue would be installed. The location of the required sewer line upgrades, and associated options, are shown on Figures 3-18 and 3-19 of the Draft SEIR. The physical environmental impacts associated with installation of these sewer lines is addressed in the Draft SEIR, as appropriate (e.g., noise impacts, traffic disruption), and would be less than significant with implementation of identified PPs and MMs associated with construction activities.

17. This comment asserts that the analysis for Thresholds 14.1 through 14.5 addressed in Section 4.14, Utilities and Service Systems, of the Draft EIR is inadequate. These Thresholds address various topics related to the impacts of the proposed project to water and wastewater services. Responses to Comments 15 and 16 above address specific comments made regarding water and sewer infrastructure. With respect to this comment, the commenter does not specifically identify what other aspects of the analysis presented for these Thresholds is inadequate; therefore, no additional response can be provided.

18. Please refer to Topical Response 6, which addresses the proposed extension of the LA Metro Purple Line subway.

19. The commenter asserts that UCLA should consider development of housing currently proposed at the UNEX and Warren Hall sites at the "main campus" or "its own campus." For clarification, both the UNEX and Warren Hall sites are located on the UCLA campus as clearly depicted on Figure 3-2, Campus Map, of the Draft SEIR. With respect to undeveloped "open space" areas on campus, of the campus area (419 acres), currently approximately 132 acres (approximately 31.5 percent of the campus) consist of open space. The open space areas include, but are not limited to, preserves, designated open space, landscaped areas, athletic fields, etc. Section 5.3.2, Alternative On-Campus Site or Sites, of the Draft SEIR, discusses selection of each of the proposed housing sites, including the UNEX site, to accommodate the necessary student housing on campus. Development of a different site, or sites, on campus would not reduce or otherwise eliminate any of the significant and unavoidable impacts from the proposed Project identified in the Draft SEIR, and further evaluation of such as an alternative is not required.

20. Please refer to Topical Response 2, which addresses consideration of private sector development to address the demand for housing.

21. The website noted was not accessible without a subscription; however, it appears that the article focuses on the provision of on-line courses for individuals with some college, and at private for-profit colleges, which would not be relevant to UCLA, a four-year public university. UCLA does provide various online courses that enhance learning and provide greater flexibility for students; online courses, degrees and certificate programs are offered by a range of departments at UCLA. However, on-line courses are intended to supplement the traditional face-to-face educational model at UCLA. UCLA has no plans to deviate from the traditional model of education that would drastically reduce or eliminate the need for education and support facilities at the campus, including on campus housing.

22. Please refer to Topical Response 5, which addresses parking management and related student vehicular travel.

23. The alternatives analysis presented in Section 5 of the Draft SEIR identifies alternatives that have been "Considered and Rejected from Further Consideration" (refer to Section 5.3), and "Alternatives Under Consideration" (refer to Section 5.4). Contrary to the assertion made by the commenter, with the exception of those alternatives identified in Section 5.3 as being rejected, the Draft SEIR does not identify "approval" or "disapproval" for any alternative under consideration. Rather, as required by Section 15126.6 of the State CEQA Guidelines, for each of the alternatives under consideration, the Draft SEIR provides a comparative analysis to determine whether the alternatives are capable of eliminating or reducing the significant environmental effects of the proposed Project to a less than significant level, and addresses whether the alternative would meet the project objectives. The Draft SEIR also identifies the environmentally superior alternative. The purpose of the Warren Hall Building Adaptive Reuse Alternative, evaluated in Section 5.4.2 of the Draft SEIR, is to address the significant and unavoidable impact to historic resources, which would result with the proposed housing project at the Warren Hall site. The comparative alternatives analysis presented in Section 5.4.2 for the Warren Hall Building Adaptive Reuse Alternative addresses each of the topical issues evaluated in the Draft SEIR, including impacts to historic resources (including architectural significance) and aesthetics (refer to pages 5-19 through 5-30 of the Draft SEIR). Further, the Draft SEIR acknowledges that the Warren Hall Building Adaptive Reuse Alternative would meet, or generally meet 10 of the 11 project objectives (refer to pages 5-30 through 5-32 of the Draft SEIR). There is no discussion of

"approval" or "disapproval" of this alternative, as asserted by the commenter. The UC Board of Regents, as lead agency, will take the alternatives analysis into consideration when deciding whether to approve the project.

24. Please refer to Topical Response 1, which addresses housing demand, and identifies that even with implementation of the proposed housing projects there would continue to be an unmet demand for housing on campus. With respect to development on campus, since the campus' last amendment to the Long Range Development Plan (March 2009), multiple academic projects, and not just student housing, have been completed. These include both new construction and major renovations, as follows:

    - **New Construction.** Engineering 6 – Phase 1, Engineering 6 – Phase 2, Ostin Music Center, Police Station, Terasaki Life Sciences, Geffen Hall, Edie and Lew Wasserman Building (at Stein Plaza), Botany Pavilion, South Campus Student Center, and Anderson School of Management Addition (under construction).

    - **Major Renovations.** Center for Health Sciences South Tower, Young Research Library, Mira Hershey Hall, Jules Stein, and Geffen Academy (under renovation).

    UCLA constantly evaluates how to more efficiently use existing space (i.e., renovations) or determines that a new facility is the right solution to academic, research, or housing needs. Just as the model and methods of education are ever-evolving, so is the UCLA campus and UCLA will provide academic and research facilities as the needs arise.

25. This comment incorrectly asserts that the No-Project Alternative has been dismissed as infeasible. As identified previously, the alternatives analysis presented in Section 5 of the Draft SEIR identifies alternatives that have been "Considered and Rejected from Further Consideration" (refer to Section 5.3), and "Alternatives Under Consideration" (refer to Section 5.4). As required by Section 15126.6(e) of the State CEQA Guidelines, the No Project Alternative is an alternative that is "under consideration". Specifically, consistent with direction provided in Section 15126.6(e)(3) of the State CEQA Guidelines, because the proposed Project is the "revision of an existing land use or regulatory plan, policy, or ongoing operation", the No Project Alternative considered in the Draft SEIR is the continuation of that plan, UCLA's Existing Long Range Development Plan. The alternatives analysis appropriately assumes that the proposed Project would not proceed, but that future development already anticipated by the Existing Long Range Development Plan would be implemented. The analysis clearly acknowledges that the No Project Alternative would have less or similar impacts as the proposed Project for most topical issues; however, it would have greater impacts than the proposed Project relative to Land Use because it would not be consistent with UCLA's *Student Housing Master Plan 2016–2026* (refer to pages 5-12 through 5-19 of the Draft SEIR).

26. As identified in Section 3.5.6, Construction Activities, of the Draft SEIR, assumptions regarding the timing of construction, construction activities, equipment to be used, etc. are made for purposes of analysis. These construction assumptions appropriately include all aspects of construction to ensure that a comprehensive analysis is provided.

    For clarification, the referenced 15 percent contingency relative to the soil export calculations are related to the amount of soil export (cubic yard), and has no relevance to the timing of construction activities. With respect to construction workers and supply, it is the responsibility of the contractor to meet the established construction schedules. With limited exceptions, established construction schedules are met, or often exceeded. Notably,

UCLA has numerous projects completed during this past year that were either on time or ahead of their contract schedules and current projects trending on or ahead of schedule.

These include Luskin Conference Center, the Geffen Medical Education Building, the Wasserman Football Center, the Mo Ostin Basketball Center, the Botanical Garden Pavilion, Engineering VI Phase 2 Building, the UCLA Geffen Academy, ongoing seismic improvements and tenant improvements in the Center for Health Sciences (CHS). For clarification, the Weyburn Terrace Phase 2 housing project was delayed for two reasons: 1) unforeseen site conditions; the remnants of a skating rink were discovered during excavation and grading that required construction to stop and tons of concrete to be removed; and 2) the project was under construction during the recession and several of the Construction Manager's subcontractors went out of business, causing significant delays.

It is important to note that when conducting the analysis of construction impacts, the longer each phase of construction takes, the impacts are typically reduced. This is because construction impacts are typically assessed on a daily basis. For instance, air quality impacts are assessed as emission rates (pounds per day). An individual construction activity or phase requires a fixed quantity of equipment use or emissions. If the number of days for an activity is increased then the emissions per day is decreased. Therefore, with respect to the impact conclusions in the Draft SEIR, should any construction phase take longer than anticipated (e.g., demolition, grading, building construction), the impacts (notably air quality, greenhouse gas emissions, and traffic) would be reduced compared to the results identified in the Draft EIR.

It is also important to note that the Draft SEIR is a program EIR. At the design approval stage, the University will evaluate each individual housing project to determine whether it is within the scope of the program described and evaluated in this Draft SEIR, and to determine what, if any, additional environmental documentation pursuant to CEQA, is needed. Refer to Section 2.2 of this Final SEIR, which includes the discussion of the current designs for the proposed housing projects at the Lot 15, Warren Hall and UNEX sites.

27. This comment addresses emissions of sulfur dioxide (SO_2) resulting from the proposed Project. For clarification, the commenter is incorrect that the discussion on page 4.2-10 includes estimates of air quality emissions; the referenced discussion is only the overview of the methods for conducting the analysis. The explanation for not including SO_2 is stated on page 4.2-2 of the Draft SEIR (second paragraph under "Criteria Pollutants" and footnote 1). As stated, SO_2 emissions are of concern in fossil-fueled power plants and industrial facilities and are not relevant to the proposed Project. However, SO_2 emissions are calculated in CalEEMod and are provided in Appendix C of the Draft SEIR. As shown on page 6 of Appendix C, maximum daily construction emissions of SO_2 would be 0.2844 pounds per day; this is a negligible emission rate when compared with the SCAQMD threshold of significance of 150 pounds per day. Similarly, the operational SO_2 emissions of 0.0348 pounds per day (page 8 of Appendix C) would be a negligible emission rate when compared with the SCAQMD threshold of Significance of 150 pounds per day.

28. As identified on page 4.2-10 of the Draft SEIR, because CalEEMod does not have the capability to calculate architectural coating emissions separately for projects with multiple sites, some painting volatile organic compound (VOC) emissions were calculated manually and added to CalEEMod outputs as appropriate. The manual VOC calculations used the formulae prescribed in the CalEEMod User documentation, Appendix A, Calculation Details for CalEEMod[21]. Inputs to the calculations include building area (gross square feet), VOC

[21] California Air Pollution Control Officers Association (CAPCOA). 2016 (September). California Emissions Estimator Model (CalEEMod) User's Guide Version 2016.3.1. Prepared by BREEZE Software, A Division of Trinity

content of architectural coatings, and number of painting days. With respect to VOC content, UCLA construction specifications require the use of ultra-low VOC coatings, as described in PP 4.2-2(d) in the Draft SEIR (refer to page 4.2-14). The reactivity-adjusted VOC content required in UCLA construction specifications is 25 grams per liter. The manual VOC calculations for the Lot 15 and UNEX sites are included on page 101 of Appendix C; the calculations for the Warren Hall site are on page 102 of Appendix C. VOC calculations for the Bradley and Drake sites were done in CalEEMod as shown in Appendix C, beginning on page 206.

29. A detailed breakdown of the trip generation assumptions for the proposed Project are presented in Table 4.13-4 of the Draft EIR (pages 4.13-23 and 4.13-24). The commenter incorrectly states that the traffic analysis assumes "students are all commuting to UCLA." As shown in Table 4.13-4, the future residents of the proposed housing projects (6,900 students) are categorized as (1) new undergraduate students to the campus, (2) existing undergraduate resident students already on campus, (3) existing undergraduate students that do not currently live on campus (commuter students), (4) new undergraduate transfer students, and (5) new graduate students. Only 1,900 of the proposed 6,900 students that would reside in the proposed housing projects were identified as current commuter students (approximately 28 percent).

    There are unique trip generation rates for resident undergraduate, resident graduate and commuter students that are applied to the residents of the proposed housing projects. These unique trip generation rates are based on the 2013 trip generation rates from the UCLA Northwest Housing Infill Project and LRDP Amendment Transportation Impact Analysis, which were developed empirically for each student group category based on campus-wide traffic counts and traffic counts at individual parking structures. The trip generation rates developed for commuter students did not discriminate based on off-campus housing location and, therefore, included commuter students living in privately-owned apartments located within walking distance of UCLA. This is reflected in the commuter student group daily trip rate of 0.746 trips per person. The net reduction in vehicle trips for the proposed Project is due only to the 1,900 undergraduate students who currently commute and would become resident students, given that commuter students have higher vehicle trip generation rates than resident students.

30. As described on page 3-28 of the Draft SEIR, the estimated 145 new staff positions generated by the proposed Project would consist of maintenance, grounds, custodial, administrative, residential life and dining. With the current employment base in the City of Los Angeles (over 1.8 million employees) (refer to page 4.11-2 of the Draft SEIR), which is expected to increase approximately 17 percent by 2040, it is appropriate to assume that the new staff positions would be filled by the local labor pool. These staff positions involve vocational opportunities that are generally found in most communities, and may not offer a unique enough opportunity to induce job-seekers to relocate to the area for the sole purpose of filling these positions. Regardless, it should be noted that for purposes of analysis, it is assumed that the employees would generate new vehicular trips as shown in Table 4.13-4 (2 daily trips – to and from campus). The only reduction in trip generation that is assumed relative to employees is related to the mode of transportation; it is conservatively assumed that 25 percent of employees would use alternative modes of transportation and not drive/commute by themselves to the campus. The analysis does not assume any reduction in trip generation due to where employees live in relation to the campus.

Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts. (Appendix A).

The commenter does not specifically identify what aspect of the technical analysis in the Draft SEIR is of concern based on this assumption so no further information on the approach to the analysis and Draft SEIR conclusions can be provided.

31. This comment addresses the assumptions for the construction-related air quality emissions analysis related to overlapping construction activities, and the project-specific Mitigation Measure (MM) established for potentially significant nitrogen oxides (NOx) emissions. Refer to Response to Comment 26, which addresses construction timing assumptions. With respect to the assumption that the construction activities for the Lot 15, Warren Hall, and UNEX sites would not overlap with construction activities for the Bradley and Drake Stadium sites, UCLA has complete control over when the construction projects are initiated and will ensure that these construction projects do not overlap. Although not anticipated, the campus would evaluate construction logistics, and any need for CEQA review, for the Bradley and Drake Stadium housing projects should there be an overlap in construction schedules.

It is important to note that the significant impact related to NOx emissions occurs only under the interim condition when construction is occurring at the Bradley and Drake Stadium sites and the housing projects at the Lot 15, Warren Hall and UNEX sites are operational. This interim condition analysis is recommended by the South Coast Air Quality Management District (SCAQMD), and even though construction-related emissions are being considered, the lower operational thresholds are applied. More specifically, the identified significant impact occurs only during the relatively short period of time (approximately 3 months) that the grading activities are occurring at the approximately 1.1-acre Bradley site. Also, the commenter asserts that the interim combined construction and operational analysis does not take into consideration the fact that the construction activities for the Lot 15, Warren Hall, UNEX sites would overlap with construction activities for the Bradley and Drake Stadium sites. Under this scenario there would be no need for an interim combined emissions analysis because there would be no occupied housing projects and no associated operational emissions.

With respect to MM AQ-1, which is the subject of this comment, the MM clearly specifies that the MM is applicable only during grading activities for the Bradley site, and that diesel engine driven construction equipment greater than 50 horsepower be certified to be Tier 4 compliant for NOx emissions. No further specifications related to the type of equipment to be used and the timing are required. It should also be noted that these mitigation requirements are consistent with requirements recommended by the SCAQMD for projects where construction equipment emissions reductions are necessary.

These requirements outlined in the MM will be specifically included in the contractor specifications. The Mitigation Monitoring and Reporting Program (MMRP) for the proposed Project is included in Section 5.0 of this Final SEIR. Monitoring of the MMs identified in the MMRP, included project-specific MM AQ-1, is required by Public Resources Code Section 21081.6. The project manager from the University Capital Programs, Design and Construction Department, would be responsible for ensuring that design and construction contracts (contractor specifications) contain the relevant MMs adopted in the Final SEIR, and that MMs are implemented during the design, construction and operational phases of the Project. Monitoring of campus Programs, Practices and Procedures (PPs) and MMs included as part of the Project, as well as project-specific mitigation measures, will be reported in conjunction with the LRDP EIR Mitigation Monitoring and Reporting Program Status Report prepared annually by UCLA Capital Programs. The annual reporting identifies the Project's PPs, and MMs, and describes their implementation status for each phase of project development, including design, construction, landscaping and operation.

Further, as noted in Response to Comment 26 above, construction assumptions have been made for purposes of analysis. While not anticipated, should there be changes to the proposed housing projects, including construction schedules, these changes would be reviewed to determine if additional environmental documentation pursuant to CEQA is required. Additional environmental review is typically required where there are new or substantially more severe impacts than those identified in the environmental document for a project.

32. Please refer to the Response to Comment 31 above regarding overlapping construction activities. The commenter is correct that the Draft SEIR concludes that the proposed Project would result in cumulative construction-related air quality emissions (refer to Section 4.2, Air Quality). With respect to construction emissions, as identified on page 4.2-30 of the Draft SEIR, the SCAQMD neither recommends quantified analyses of cumulative construction emissions nor provides methodologies or thresholds of significance to be used to assess cumulative construction impacts. Consistent with the approach taken in the March 2009 LRDP Amendment Final EIR, for the purposes of this SEIR, individual construction projects that exceed the SCAQMD recommended daily mass emission thresholds for project-specific impacts would be considered to cause a cumulatively considerable increase in significant cumulative regional emissions, and individual construction projects that do not exceed the emissions thresholds for project-specific impacts would not be considered to cause a cumulatively considerable increase in regional emissions. The Project-specific construction-related impacts are less than significant and no additional mitigation beyond that identified in the Draft SEIR is required for Project construction. While the proposed Project's impacts can be reduced to less than significant levels and UCLA can implement approved mitigation measures for other University projects, UCLA has no control over emissions and mitigation at off-campus, non-University projects. Therefore, notwithstanding the lack of Project-specific significant impacts, the Draft SEIR conservatively concludes that the proposed Project's cumulative construction-related impacts would be significant and unavoidable because of the potential for concurrent construction of on- and off-campus projects (University and non-University) resulting in emissions that exceed the SCAQMD thresholds of significance.

33. The commenter states that the proposed Project's operational emissions would be "elevated above local threshold levels". It is not clear what thresholds or analysis conclusions are being referred to in this comment. As shown in Table 4.2-8 of the Draft SEIR, the operational emissions from concurrent operations of the five proposed housing sites would be less than significant when compared to the SCAQMD significance thresholds for all criteria pollutants, including those for which the South Coast Air Basin is in non-attainment (ozone [O_3] and particulate matter [PM10 and PM2.5]). The operational emissions estimates reflect maximum daily emissions. With respect to the identified NOx (an ozone [O_3] precursor) emissions for project operations, as stated on page 4.2-23 of the Draft SEIR, the maximum NOx emissions are primarily due to the test operation of emergency generators, but this increase would be limited to once monthly for each generator; this testing would not occur concurrently and would last approximately 30 minutes. Outside of these testing days, the maximum daily NOx emissions would be 6 pounds per day, less than 11 percent of the SCAQMD threshold and would not be cumulatively considerable. With respect to emissions of PM10 and P2.5, the daily emissions of 2 pounds per day for these pollutants would be substantially less than the established thresholds (150 and 55 pounds per day, respectively) and would not be cumulatively considerable. Similar to construction-related emissions (discussed in Response to Comment 32), notwithstanding the lack of significant Project-specific impacts, the Draft SEIR conservatively concludes that the proposed Project's cumulative operational impacts would be significant and unavoidable due to the contribution to cumulatively considerable impacts.

34. Please refer to Response to Comment 31, which addresses assumptions regarding overlapping construction activities. It should also be noted that the local construction emissions analysis presented under the discussion of Threshold 2.4 is based on the local significance thresholds (LST) methodology established by the SCAQMD. Unlike the SCAQMD thresholds for daily regional emissions (see Draft SEIR Table 4.2-5 and accompanying discussion of Threshold 2.2), the LST analysis focuses on impacts from on-site generated emissions to sensitive receptors near that project site. The SCAQMD LST method is used for receptors within 500 meters (1,640 feet); at greater distances, the impact is considered to be negligible under Threshold 2.4. UCLA does not propose that the construction activities for the Lot 15, Warren Hall and UNEX sites would overlap with construction activities for the Bradley and Drake Stadium sites, and would control these construction activities to ensure there is no overlap. However, in the hypothetical case of overlapping construction activities with Bradley grading, Drake Stadium vertical building, and a delayed Lot 15 vertical building, there would be sensitive receptors within 500 meters of all three sites in the roughly triangular area between those sites. For these three concurrent activities, on-site emissions of NOx, CO, PM10, PM2.5 would be 45, 51, 4.7, and 3.6 pounds per day, respectively. These emissions values are less than the conservative 1-acre, 50-meter LST thresholds of 104, 833, 12, and 4 pounds per day. The thresholds are conservative because each of the sites is greater than one acre and any sensitive receptor would be at least 200 meters from two of the three sources. Larger site areas and increased source-receptor distances increase the LST thresholds. Therefore, although not anticipated, even if there were overlapping construction activities, there would not be localized impacts to sensitive receptors from construction.

35. According to Section 15125 of the State CEQA Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of a proposed Project to provide the “baseline condition” against which project-related impacts are compared. Normally, the baseline condition is the physical condition that exists when the Notice of Preparation (NOP) is published. The analysis of potential impacts to biological resources in the Draft SEIR (Section 4.3) was based on fieldwork conducted in spring of 2017; it addresses species that were observed or that would currently have potential to occur in the natural open space areas or vegetation at the project sites. For the Lot 15 site, a total of eight visits were conducted by various biologists during spring 2017: six visits to conduct coastal California gnatcatcher surveys, which recorded all birds present; one visit to conduct updated vegetation mapping, which also recorded all bird species observed; and one visit to conduct a tree survey, which would have noted any special status species observed. A representative list of species is included in Section 4.3, Biological Resources, of the Draft SEIR and a complete compendium of bird species observed during focused surveys is included in Appendix D of the Draft SEIR (as part of the California gnatcatcher survey report). One site visit was also conducted for each of the remaining sites (Warren Hall, UNEX, Bradley and Drake Stadium) to conduct a tree survey and identify other vegetation present; these surveys would have also noted any special status surveys observed. For clarification, the use of information from the March 2009 LRDP Amendment Final EIR is primarily related to the discussion of regulatory framework, which has not changed. Further, the March 2009 LRDP Amendment Final EIR identified that there are only two areas on campus that contain natural open space (the undeveloped “4-acre parcel” in the Northwest zone and Stone Canyon Creek in the northeast portion of the campus), which also has not changed.

    Proposed development at each of the project sites would impact developed and ornamental habitats, which are not suitable for special status species. The Lot 15 site is adjacent to the “4-acre parcel”, which includes a limited amount of coastal sage scrub habitat that is considered only marginally suitable for the coastal California gnatcatcher because it is

limited in extent and isolated from larger areas of occupied coastal sage scrub habitat. No other Threatened or Endangered wildlife species have potential to occur in the habitat adjacent to Lot 15 due to lack of suitable habitat. While other special status species may occur in the coastal sage scrub or woodland vegetation (e.g., yellow warbler), the local populations of these other special status species are not limited to the extent that any indirect effects from the development of the Lot 15 project site would lower their population below non-sustaining levels; therefore, no mitigation would be required for impacts on special status species. Because presence or absence of special status species does not change the outcome of mitigation that would be required, focused surveys are not required for these species. In contrast, if a Threatened or Endangered species were to be present, indirect effects could affect breeding, and this could affect the local population; thus, focused surveys are typically conducted for any Threatened or Endangered species with potential to occur to ensure that the proper mitigation is included. Protocol focused surveys were conducted for the coastal California gnatcatcher and survey results were negative; no Threatened or Endangered species were observed or expected to be present.

It is also important to note that MMs 4.3-1(a) and 4.3-1(b) from the March 2009 LRDP Amendment Final EIR, which are incorporated into the proposed Project, require the protection of any nesting native bird or raptor species. Regardless of species range shifts due to climate change, any nesting bird in the project sites would be protected until the nest is no longer active. The use of the habitat adjacent to Lot 15 is not expected to change during bird migration. Regardless of potential species range shifts due to climate change, proposed development at the project sites would remove developed and ornamental habitats; the natural open space adjacent to Lot 15 would continue to be available for use by migratory birds passing through the area. Additionally, as required by MMs 4.3-1(c) and MM 4.3-4 from the March 2009 LRDP Amendment Final EIR, mature trees removed would be replaced at a 1:1 ratio and protected trees would be replaced at a 2:1 ratio.

36. This comment addresses the demolition of the Warren Hall building, which qualifies as a historic resource. The commenter's recommendation that the Warren Hall building be preserved and renovated/repurposed for graduate student beds is noted and will be forwarded for consideration to the decision makers. Please also refer to Response to Comment 23, which addresses the Warren Hall Building Adaptive Reuse Alternative, and clarifies that this alternative remains under consideration in the Draft SEIR.

37. This commenter asserts that the Historic Resource Evaluation (HRE) for the UNEX building prepared by Page & Turnbull is subjective and does not support the conclusion that the building is not a historic resource. The referenced Page & Turnbull HRE for the UNEX building is included in Appendix E of the Draft SEIR, in its entirety, and is summarized in Section 4.4, Cultural and Tribal Cultural Resources, of the Draft SEIR. The HRE clearly identifies the criteria under which a resource would be considered eligible for listing in national, State, or local register for historic resources and evaluates the UNEX building in detail based on these criteria. Based on this analysis it has been determined that the UNEX Building is not a historic resource under CEQA. The commenter does not provide any evidence to support the assertion that the evaluation of the UNEX building, which is based on factual data and detailed evaluation, is not accurate.

38. With respect to the Drake Stadium site being within a potential landslide area, as identified on page 4.5.13 of the Draft SEIR, slopes that are included in a potential earthquake-induced landslide zone are not necessarily susceptible to earthquake-induced landslides. It only means that a site-specific geotechnical investigation of the slope is necessary to confirm or disprove that the specific slope would be susceptible to earthquake-induced landslides. Slope stability, including landslide risk, and appropriate geotechnical recommendations

would be part of the required geotechnical studies for the proposed housing development at the Drake Stadium site. Specifically, PP 4.5-1(a) requires that, during project-specific building design, a site-specific geotechnical study be conducted under the direct supervision of a California Registered Engineering Geologist or licensed Geotechnical Engineer to assess detailed seismic, geological, soil, and groundwater conditions at the site and to develop recommendations to prevent or abate any identified hazards in accordance with the requirements of the applicable California Building Code in effect at the time of construction. The site-specific geotechnical investigation would address, among other issues, the potential for displacement caused by seismically induced shaking, fault/ground surface rupture, liquefaction, differential soil settlement, expansive and compressible soils, landsliding, or other earth movements or soil constraints. Further, future development at the Drake Stadium site would incorporate PP 4.5-1(d), which requires that projects incorporate all existing and future recommendations for site preparation and seismic design based on preliminary and subsequent geotechnical investigations. With adherence to these requirements, potential impacts related to seismic activity would be less than significant.

With respect to the portion of this comment addressing construction costs for the Drake Stadium site, this comment does not does not question the content or conclusions of the current Draft SEIR, and no response is required. Further, CEQA does not require the inclusion of economic or social analysis in environmental documents. The focus of CEQA is on potential adverse impacts of the project on the physical environment. Accordingly, any economic or social effect by itself is not treated as a significant effect on the environment (State CEQA Guidelines, Section 15382).

39. The commenter asserts that the amortization of construction-related GHG emissions over a 30-year period "underscores the true output of the greenhouse gas emissions." It is assumed, based on subsequent components of this comment, that the commenter's use of the word "underscores" means "avoids" disclosing the construction phase GHG emissions. The total construction phase GHG emissions are shown in Table 4.6-1 of the Draft SEIR (refer to page 4.6-16), and in Appendix C, of the Draft SEIR. Because overall GHG emissions analysis is a long-term, global issue and, as stated in the Draft SEIR (page 4.6-13), because construction emissions are temporary and there are few measures for mitigation of construction GHG emissions, in 2008 the SCAQMD recommended amortizing construction emissions over the life of a project and adding the value to operational emissions. It should be noted that the Sacramento Metropolitan Air Quality Management District recommends a 40-year amortization of construction GHG emissions on residential projects. The SCAQMD-recommended method of amortization of construction GHG emissions has been used since 2008 in GHG analyses presented in environmental documentation pursuant to CEQA and this method has not been challenged or rescinded by SCAQMD over this period. It should also be noted that the Draft SEIR was submitted to the SCAQMD for review, and no comments were received from this agency.

40. This comment addresses the methods and approach for determining whether GHG emissions are significant. The commenter incorrectly identifies that there are quantitative GHG emissions regulatory requirements applicable to the proposed Project. UCLA, as the Lead Agency for the Draft SEIR, has elected to use an analysis method recommended by the SCAQMD. As explained in the Draft SEIR (refer to pages 4.6-11 and 4.6-12), the SCAQMD recommends a "screening threshold" of 3,500 metric tons of carbon dioxide equivalent (MTCO2e) for residential projects. The purpose of a screening threshold is to determine whether a project requires more detailed analysis. For projects with GHG emissions that exceed the screening threshold, the next step in the SCAQMD-recommended method is analysis by the Efficiency Target method, which was used for the proposed Project. The use of the Efficiency Target analysis is the next step in a logical

analysis method recommended by the SCAQMD. The screening thresholds are single values, applicable to all sizes of projects. Because, larger projects would have greater GHG emissions than smaller projects, larger projects are likely to exceed the screening threshold. However, larger projects are often more efficient than smaller projects when emissions per resident are calculated. Thus, the efficiency method of analysis, as recommended by, SCAQMD was used. As shown in Table 4.6-3 of the Draft SEIR, the Project efficiency would be substantially less (better) than the SCAQMD threshold.

41. The commenter incorrectly asserts that the Draft SEIR disregards a cumulative impact analysis. Rather, the Draft SEIR acknowledges on page 4.6-14 that "it is accepted as very unlikely that any individual development project, alone, would have GHG emissions of a magnitude to directly impact global climate change, and the impact of the proposed Project is therefore considered on a cumulative basis". The GHG emissions presented in Section 4.6 of the Draft EIR under Thresholds 6.2 and 6.3 is a cumulative impacts analysis. The text on page 4.6.4, Cumulative Impacts, of the Draft SEIR is simply summarizing the analysis presented for Thresholds 6.2 and 6.3.

    The policy that impact analysis of GHG emissions is solely a cumulative analysis is accepted at many levels. The Final Statement of Reasons for Regulatory Action for the Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 includes the following:

    > "Due to the global nature of GHG emissions and their potential effects, GHG emissions will typically be addressed in a cumulative impacts analysis. (See, e.g., EPA, Draft Endangerment Finding, 74 Fed. Reg. 18886, 18904 (April 24, 2009) ('cumulative emissions are responsible for the cumulative change in the stock of concentrations in the atmosphere'); California Air Pollution Control Officers Association, CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act (January 2008) ('CAPCOA White Paper'), at p. 35 ('GHG impacts are exclusively cumulative impacts; there are no noncumulative GHG emission impacts from a climate change perspective").

    Because climate change is a global phenomenon, CEQA analysis looks at each project to determine if the project might have a cumulatively considerable contribution to GHG emissions. In the Draft SEIR, UCLA has chosen to make this determination based on (1) quantitative standards recommended by SCAQMD, and (2) whether conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases, as described in Section 4.6 of the Draft SEIR. For reference, UCLA's GHG emissions of less than 310,000 MTCO2e is very small when compared with California's GHG emissions of approximately 440 million MTCO2e, the United States' GHG emissions of more than 6.5 billion MTCO2e, and the global emissions of more than 45 billion MTCO2e.

42. With respect to arsenic, the commenter is correct that arsenic was detected at the Lot 15 site. However, for clarification, as also discussed on page 4.7-3 of the Draft SEIR, of the soils samples taken at the site, one sample, at a depth of one foot, had one analyte (arsenic) above its regulatory limit, in this case the limit for naturally occurring concentrations in Los Angeles County defined by the California Department of Toxic Substances Control (DTSC). The arsenic concentration at a depth of three feet in this location (B-3) was detected, but below the regulatory limit. All other detectable concentrations of tested analytes were below the applicable Regional Screening Level (RSL) for residential/industrial soil. Based on these results, supplementary soil testing for arsenic was performed in five locations near boring B-3. Arsenic was not detected in any of these samples. Further, it is important to note that

the initial soil sampling at the Lot 15 site, during which levels of arsenic were detected, was conducted to characterize the soil in preparation for export from the site; regardless of the conclusions of the supplemental soils test, the soils would be removed from the site prior to construction of the proposed housing project.

With respect to the leaking underground storage tanks located in proximity to the UNEX site, the requested no further action letters issued by the Los Angeles Regional Water Quality Control Board are included in Attachment A to this Final SEIR.

43. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including compliance with City regulations, and land use compatibility.

44. This comment addresses the traffic analysis presented in the Draft SEIR. The commenter incorrectly asserts that the referenced June 5, 2017 letter from the California Department of Transportation (Caltrans) is commenting on the traffic analysis prepared for the proposed Project. For clarification, the referenced letter is the comment letter received from Caltrans in response to the Notice of Preparation (NOP) that a Draft SEIR was being prepared. As required, UCLA solicited input from Caltrans and other agencies on the environmental issues to be addressed in the Draft SEIR. Contrary to the commenter's interpretation of Caltrans comments, Caltrans states:

> "In light of state legislation SB 743, at this stage the lead agency may choose to proceed with a vehicle miles traveled (VMT) transportation analysis instead of a more traditional level of service (LOS) analysis for the traffic study. However, irrespective of the methodology used, any transportation-related impacts should be addressed though appropriate multi-modal mitigation measures to reduce the number of vehicle trips generated by the project and/or per capita VMT reductions. Such measures may include, but are not limited to: installing safe and secure bicycle parking/storage for students and visitors; providing on-site car-sharing services; reducing the amount of parking associated with the project; and/or decoupling student housing costs and parking costs."

Section 4.13, Transportation/Traffic, of the Draft SEIR, clearly identifies the project features that are consistent with the measures identified by Caltrans to reduce vehicle trips and VMT. These include, but are not limited to:

- Provision of 6,900 beds for undergraduate and graduate student on campus, which would reduce the number of commuter students driving to and from the campus.
- Provision of parking at each location only as necessary to comply with Americans with Disabilities Act (ADA) requirements and to accommodate the drop-off, pick-up, and service needs. Parking would be limited to a few spaces at each site and would not include parking spaces for student residents or staff to discourage vehicular travel. Should residents or staff need parking, parking permits would be available for spaces on the UCLA campus.
- Provision of pedestrian and bicycle facility connections at each site to draw people among residential buildings, community spaces, and the rest of campus. A pedestrian bridge would be constructed to connect the proposed housing development at the Lot 15 site to the street level on De Neve Drive. Bicycle storage and parking areas would also be provided at each site.
- Implementation of the University of California, Los Angeles (UCLA) Transportation Demand Management (TDM) program by students and staff.

Further, as discussed in Section 4.9, Land Use and Planning, and shown in Figure 4.9-3, of the Draft SEIR, each the proposed housing sites is located in a designated High Quality Transit Area (HQTA), and the Warren Hall, UNEX, and Bradley sites are also in existing Transit Priority Areas, which are areas within 0.5-mile of major transit stops.

It should also be noted that Caltrans reviewed the Draft SEIR and provided comments (see Comment Letter 2). In summary, Caltrans concurs with the conclusion of the Draft SEIRSEIR that by increasing the amount of student housing on infill sites in an area well-served by public transit, the propose Project may produce a per capita reduction in VMT, especially as there will be minimal parking provided in association with the proposed Project.

45. Please refer to Responses to Comments 26 and 31 above, which address the assumptions for construction timing, and overlapping construction activities. As identified, the analysis presented in the Draft SEIR accurately reflects available information relative to the construction activities, including truck traffic, for the proposed housing projects, and UCLA can ensure that construction activities for the Bradley and Drake Stadium sites are not initiated until completion of the construction activities for the Lot 15, Warren Hall and UNEX sites.

With respect to MM TRF-1, the commenter does not specify what aspect of this requirement is "insufficient." Please refer to Response to Comment 31 above, which addresses UCLA's Mitigation Monitoring and Reporting Program, and procedures that are followed to ensure that project-specific mitigation measures are implemented.

46. For clarification, the Draft SEIR does not assume that 25 percent of employees use only public transit. Detailed information regarding campus commuters is outlined in the annual State of the Commute Report[22] prepared by UCLA and included in Attachment B to this Final EIR. A component of this report is the SCAQMD-required reporting of employee average vehicle ridership (AVR). As reported in the 2016 State of the Commute Report, in 2016, UCLA achieved an employee AVR of 1.66, well above SCAQMD's regulatory required target for compliance of 1.50. It is further reported that in 2016 only 53 percent of employees drive alone to the campus; the remaining 47 percent travel to UCLA by some form of alternative transportation including carpool, vanpool, public transit, bicycling and walking. This information is the basis for the assumptions presented in Table 4.13-4 of the Draft SEIR (refer to footnote "l" on page 4.13-34). It should be noted that in 2017, only 52.3 percent of employees drove alone, a reduction compared to 2016.

For purposes of the calculation of employee trip generation it is conservatively assumed that 25 percent of employees do not drive alone to campus. However, per the 2016 State of the Commute Report, over 25 percent of employees utilize commute modes that do not require the use of a passenger vehicle (16.9 percent public transit, 6.9 percent walk, and 1.9 percent bicycle). The assumed travel mode split adjustment of 25 percent conservatively ignores the passenger vehicle trip-reducing effects of the 12.0 percent and 4.3 percent of UCLA employees who carpool and vanpool, respectively, to and from the campus.

47. Please refer to Response to Comment 26 above, which addresses the assumptions for construction timing. The commenter incorrectly identifies that the Draft SEIR concludes that construction-related cumulative traffic impacts would be less than significant. As identified on page 4.13-32 and 4.13-33 of the Draft SEIR, while the proposed Project's impact is less than significant, the Project's contribution to significant cumulative construction-related traffic impacts is considered a significant cumulative impact. Project-level mitigation has

[22] University of California, Los Angeles (UCLA). 2016. *UCLA State of the Commute, An Annual Report, January-December 2016.* Los Angeles, CA: UCLA.

been provided to reduce project impacts to a less than significant level; however, UCLA does not have control over the construction activities for non-University projects in the area.

48. This is a closing statement summarizing comments presented in this comment letter related to public notice/involvement, the proposed housing project at the UNEX site, alternatives to the project involving participating with the private sector, previous land use decisions made by the University, and compliance with Stipulated Agreement between the WHPOA and The Regents. These comments are addressed in the Topical Responses provided in Section 3.2 of this Final SEIR, and the individual comment responses provided above.

49. This comment addresses financial issues associated with the proposed Project and UCLA's operations and will be forwarded for consideration to the decision makers. However, this comment does not does not question the content or conclusions of the current Draft SEIR, and no response is required. Further, CEQA does not require the inclusion of economic or social analysis in environmental documents. The focus of CEQA is on potential adverse impacts of the project on the physical environment. Accordingly, any economic or social effect by itself is not treated as a significant effect on the environment (State CEQA Guidelines, Section 15382).

Comment Letter 4

October 8, 2017

Dear Ms. Dudman,

enclosed please find the comments to the latest UCLA student housing project by the North Westwood Village Residents' Association. As far as the Environmental Impact (EI) on the North Westwood Village where the UNEX site is located no consideration seems to have been made.

1. The UNEX student housing project is not located on the UCLA campus but is located in the North Westwood Village, part of the City of Los Angeles. Why is there no discussion of the impact of the new UNEX student housing project will have on the "North Westwood Village", an integral part of the Los Angeles City? The North Westwood Village is subject the North Westwood Village Specific Plan (NVSP) which is a part of the Westwood Community Plan (WCP), which is a part of the California State mandated Los Angeles General Plan. — 1
2. Why is there no Environmental Impact (EI) assessment on the following subjects: — 2
3. Why is the there not any assessment made on the significant impact that the massive UNEX project will have on the Los Angeles City North Westwood Village? — 3
4. What is the significant impact the UNEX project will have on the maximum North Village population capacity of 15,000 residents, listed in the WCP? — 4
5. What is the significant cumulative impact of the UNEX project will have with regard to the number of total residents taking into account all the building projects being built or planned, both privately owned and by UCLA, since the NVSP went into effect on or about 1985? — 4
6. What is the significant impact of the massively oversized UNEX project on the North Village with regard to the available Los Angeles City infrastructure: — 5
7. North Village water supply? — 5
8. North Village sewer handling capacity? — 5
9. Electrical and gas utilities? — 5
10. North Village traffic? — 6
11. Why is it assumed that zero residents of the UNEX project will have cars that need parking spaces? When a realistic estimate will be that at least about 20% of student residents will have cars, used for recreation and or transportation to jobs off campus that need parking? — 7

12. How does the massive UNEX project significantly impact the extreme shortage of street parking in the North Village?
13. Where are the additional residents of the UNEX project owning cars supposed to park their cars?
14. How does the UNEX project significantly affect the traffic of the additional residents circling the neighborhood to find street parking?

7 cont.

15. What is the additional Los Angeles recreational park space requirement for this massive new residential project?
16. How will the additional required recreational park space, required by the City of Los Angeles, be provided without UCLA contribution to the Los Angeles Quimby fund?

8

17. Significant North Village aesthetic Impacts: The North Village height limit is 45 feet. How does the 200 feet plus height of the UNEX project significantly affect the visual environmental impact on the immediate neighborhood and on the whole North Village?

9

18. How does the 200 feet height plus UNEX project significantly affect neighboring North Village buildings with its shadow impact?

10

19. How does the massive lack of NVSP open space requirement of 250 square feet per apartment unit or 150 square feet per "guest room", (dormitory room) significantly affect the environmental quality of life of the North Village community?

11

20. How does the massive UNEX project significantly affect the access to the regional emergency center at the UCLA hospital when the main access to the hospital on Gayley Avenue is blocked by first responders to the massive UNEX structure in case of a fire, earthquake, or other major emergency?

12

21. What is the impact of the UNEX building in case of a major disaster, like an earthquake or high-rise fire, for access to the North Village when the building could block two of the three access roads to the North Village (Gayley and Levering Avenues) both abutting the UNEX high rise building.

13

22. How does the huge 200 feet plus high-rise UNEX structure, substantially higher than the UCLA hospital, the highest structure north of Wilshire Boulevard, only 500 feet away from the hospital emergency helicopter landing pad, impede and or endanger emergency helicopter access and safe operations to and from the UCLA hospital, in case of limited visibility and or fog.
23. How will the UNEX high-rise student dormitory be endangered by the frequent emergency helicopter traffic to the UCLA hospital, only 500 feet away?

14

24. What is the significant impact on the UNEX student dormitory residents exposed in direct line of sight to the extremely noisy landing and take-off's of UCLA Hospital day and night helicopter traffic? 15
25. What is the significant impact that the high-rise UNEX project will have on the nearby protected historic buildings in, and the overall character of the Westwood Village? 16
26. What will the significant aesthetic impact of the 200 feet high UNEX project have on the Westwood Village historic landmark, the Fox theater tower, have, especially when viewed from the Westwood Gateway, the intersection of Westwood and Wilshire Boulevards? 17

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Response to Comment Letter 4
Wolfgang Veith
North Westwood Village Residents' Association
October 8, 2017

1. For clarification, the UNEX site is on the UCLA campus, within the Bridge zone, as identified in numerous University documents, including, but not limited to, Figure 3-2, Campus Map, of the Draft SEIR; in the March 2009 LRDP Amendment Final EIR, Figure 4.8-3; and on Figure 6, Bridge Zone Built Environment, of the 2002 Long Range Development Plan (LRDP). Please refer to Topical Response 4, which addresses the applicability of City of Los Angeles planning documents to development on campus.

   The commenter incorrectly asserts that there is no discussion "of the impact of the new UNEX student housing project will have on the "North Westwood Village". Potential impacts to surrounding uses and sensitive receptors, which are within the North Westwood Village, are addressed throughout the Draft EIR. Notably, Section 4.1, Air Quality, addresses potential air quality impacts to adjacent off campus sensitive receptors during construction and operation; Section 4.2, Aesthetics, addresses the change in visual character from off campus vantage points surrounding the proposed housing site; Section 4.7, Hazards and Hazardous Materials, addresses the potential for the proposed Project to create a hazard to the public or the environment, and to expose individuals to hazards; Section 4.9, Land Use and Planning, addresses the project's consistency with applicable land use plans and programs, including UCLA development objectives outlined in its Long Range Development Plan related to land development near off campus uses; Section 4.10, Noise and Vibration, addresses potential noise and vibration impacts to adjacent and nearby sensitive receptors that would occur during construction and operation; Section 4.13, Transportation/Traffic, addresses potential traffic impacts at local intersections; and Section 4.14, Utilities and Service Systems, addresses potential impacts to the infrastructure serving the UNEX site. As identified in the respective sections of the Draft SEIR, with the exception of project-related and cumulative construction noise impacts, and cumulative construction-related traffic, which have been identified as significant and unavoidable impacts, local impacts affecting the North Westwood Village would be less than significant with implementation of identified Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) from March 2009 LRDP Amendment Final EIR, and project-specific MMs.

2. No comment on the Draft SEIR is provided and no response is required.

3. Refer to Response to Comment 1, which identifies where in the Draft SEIR potential impacts to uses in the North Westwood Village are addressed.

4. The commenter incorrectly asserts that the Westwood Community Plan includes a maximum capacity of 15,000 residents in the North Village. Neither the North Westwood Village Specific Plan nor the Westwood Community Plan establish population capacity limits for the North Westwood Village. The Westwood Community Plan includes projections provided by the Southern California Association of Governments (SCAG), which estimate the population in Westwood to be 49,605 individuals by 2010, and the population in the City of Los Angeles to be 4,306,564 individuals by 2010. For reference, the population in Westwood was approximately 55,404 individuals in 2015[23] and the

[23] City of Los Angeles Planning Department. 2015 (accessed November 8, 2017). Demographic Statistics Report. http://planning.lacity.org/documents/demographics/oct2015.pdf

current population in the City of Los Angeles is estimated to be 4,041,707 individuals[24]. It should also be noted that the Chapter III, Land Use Plan Policies and Programs, of the Westwood Community Plan, includes a "Plan Population and Dwelling Unit Capacity" for Westwood. This identifies a reasonable expected population of 49,198 individuals by 2010, but this number specifically excludes the UCLA on-campus population.

Potential impacts associated with increased population growth are addressed in Section 4.11, Population and Housing, of the Draft EIR. As identified, the proposed Project would generate approximately 145 new staff positions on campus. For the majority of these positions, there would be multiple work shifts. Therefore, it is not expected that each of the new staff would be on campus at the same time each day. When considering potential indirect population growth, the proposed Project could generate an increased population of 244 persons (direct and indirect). With respect to the student population, the proposed Project would not increase the student enrollment at UCLA. Therefore, there would not be an increase in the on-campus student population resulting from the proposed Project beyond that already anticipated. While there would be up to 6,900 new beds on campus, it is estimated that 1,962 of these would be occupied by current students living on campus in triple rooms designed for two beds (refer to Table 4.11-3 of the Draft SEIR). The remaining 4,938 student beds would be occupied by students not currently living on campus or that would not be able to continue living on campus without the provision of new beds (new students, returning student residents, transfer students and graduate students). The proposed UNEX housing project would accommodate 1,350 beds/students; approximately 600 of these beds would be filled by students currently living on campus. The Draft EIR concludes that project-related and cumulative impacts related to increases in population would be less than significant when taking into consideration City and County of Los Angeles projections. As identified previously, the Westwood Community Plan excludes the on-campus population for UCLA.

As further discussed in the Responses to Comments 5 and 6 below, the assessment of potential impacts to infrastructure resulting from the proposed Project take into consideration the increased demand for utilities resulting from development and occupation of the UNEX building (up to 1,350 beds).

5. Proposed infrastructure to serve the proposed housing at the UNEX site is addressed in Section 3.5.5, Utility Infrastructure, and potential impacts are addressed in Section 4.14, Utilities and Service Systems.

A Water Supply Assessment (WSA) was prepared for the proposed Project; it is included in Appendix I of the Draft SEIR and summarized in Section 4.14 of the Draft SEIR. The WSA concludes that the City if Los Angeles Department of Water and Power (LADWP), which provides water to the campus, has a sufficient and reliable water supply now and into the future, including a sufficient water supply for the proposed Project. These supplies are also sufficient to provide for overall City-wide growth at the rate projected in LADWP's 2015 UWMP. It has also been determined that the water needs at the UNEX site (domestic and fire flow) can be served by the existing 8-inch water main in Gayley Avenue, or the existing 6-inch water main in Levering Avenue, if necessary. A backflow prevention device would need to be installed. However, no new or expanded water lines, beyond the installation of on-site facilities that would connect to existing water lines would be required.

[24] State of California, Department of Finance. 2017 (accessed December 1, 2017). New State Population Report: California Grew by 335,000 Residents in 2016. http://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-1/documents/E-1_2017PressRelease.pdf

The proposed buildings at the UNEX site would be served by an existing 8-inch sewer main in Le Conte Avenue, which is located along the southern site boundary and runs east to connect to an 8-inch sewer main in Gayley Avenue. Based on sewer line monitoring conducted in 2017 by the City of Los Angeles, there is currently capacity in the Gayley Avenue 8-inch sewer main to accommodate the proposed housing project. Due to plumbing code requirements, a second 8-inch lateral connection to the Gayley 8-inch sewer main would also be required. No new or expanded sewer lines, beyond the installation of on-site facilities to connect to existing facilities, would be required.

The proposed buildings at the UNEX site would be served by connections to existing electric and natural gas facilities, and by the existing transformer located at the Science and Technology Research Building and 12.4 kVA loop that currently extends to the existing UNEX building. Additionally, an on-site generator and boiler(s) would be installed to serve the proposed uses. It is expected one generator would be needed (estimated at 1,250 kW), and three boilers of equal size (estimated total of 5.6 MBTU); the existing boiler at the site would be reused. No new or expanded utility infrastructure beyond the installation of on-site facilities that would connect to existing utility lines would be required.

6. Potential traffic impacts are addressed in Section 4.13, Transportation/Traffic, of the Draft SEIR. As shown in Table 4.13-4, it is estimated that the proposed Project would result in a reduction of 77 average daily trips (ADT), a reduction of 24 AM peak hour trips and an increase of 12 PM peak hour trips. Based on the City of Los Angeles Department of Transportation (LADOT) Transportation Impact Study Guidelines, if fewer than 25 trips are projected to be generated by a project during the peak hours, a project is not expected to result in significant transportation impacts to any surrounding intersections or street segments and no analysis is recommended by the LADOT. Therefore, the proposed Project would not have a significant traffic impact at study intersections.

7. Please refer to Topical Response 5, which addresses the provision of parking at the proposed housing sites, including the UNEX site.

8. As further discussed under Topical Response 4, and explained in Section 4.9, Land Use and Planning, of the Draft SEIR (refer to the discussion of Local Planning Programs on page 4.9-11 and 4.9-12), UCLA is part of the University of California, a constitutionally created entity of the State of California. As a constitutional entity, the University of California is not subject to municipal regulations, including payment of park fees to the City of Los Angeles. As discussed in Section 4.12, Public Services and Recreation, of the Draft SEIR, the UCLA campus provides extensive access to a broad range of recreational facilities, activities, and services to meet the varied athletic, recreational, and leisure needs of students, faculty, and staff. Most students who live on campus use on-campus recreational facilities. The UCLA Cultural Recreational Affairs Department continuously monitors the demand for recreational facilities on campus and adjusts operating hours and other program operating procedures to ensure that the existing facilities are used as efficiently as possible.

9. Please refer to Topical Response 4, which addresses aesthetic impacts from the proposed development at the UNEX site.

10. The potential shadow impacts resulting from the proposed UNEX housing project are analyzed in Section 4.1, Aesthetics, of the Draft SEIR (pages 4.1-25 through 4.1-27). As identified, this analysis focuses on where the proposed Project would cause shade and/or a shadow on currently un-shaded, shadow-sensitive uses off campus. A privately owned residential use northwest of the UNEX site has a pool on a second-floor deck in the

southern corner of the building (facing Roebling Avenue). The pool is approximately 130 feet west of the existing UNEX building at the nearest point. Additionally, as shown in the site photographs presented in Figures 4.1-4a and 4.1-4b, of the Draft SEIR, there are numerous mature trees that line Levering Avenue adjacent to this building. Based on the location of the pool in relation to the associated residential building and existing UNEX building and on the presence of the mature trees adjacent to the building/pool, the pool currently experiences various levels of shade, at varying times of day. The proposed building at the UNEX site would not cause shade/shadow on a currently unshaded, shadow sensitive use off campus.

11. As further discussed under Topical Response 4, and explained in Section 4.9, Land Use and Planning, of the Draft SEIR (refer to the discussion of Local Planning Programs on page 4.9-11 and 4.9-12), the University of California is not subject to municipal regulations, including open space requirements outlined in the North Westwood Village Specific Plan. Additionally, as identified in the Existing UCLA LRDP and Physical Design Framework (July 2009), open space is an essential component of the aesthetic and social life of the campus. Of the campus area (419 acres), currently approximately 132 acres (approximately 31.5 percent of the campus) consist of open space. The open space areas include, but are not limited to, preserves, designated open space, landscaped areas, athletic fields, etc. Additionally, consistent with the March 2009 LRDP Amendment Final EIR PP 4.12-1(b), the proposed housing projects would integrate hardscape improvements, landscape improvements, and pedestrian paths accessible to all campus students, staff, faculty, and visitors.

12. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including emergency access to the Ronald Reagan UCLA Medical Center (RRUCLAMC).

13. Please refer to Topical Response 4, which address the proposed housing project at the UNEX site, including access during an emergency at the site.

14. The relationship of the proposed housing projects to the existing helistop at the RRUCLAMC, including the proposed structures at the UNEX site, are addressed in Section 4.7, Hazards and Hazardous Materials, of the Draft SEIR. The RRUCLAMC operates the helistop (with two helipads) under a Caltrans Aeronautics Heliport Permit. The helistop is located on top of the ten-story facility and receives a very limited number of flights (average of two flights per day) limited to emergency patient transport and support of the organ transplant program. The Caltrans Aeronautics Heliport Permit requires the RRUCLAMC to contact the Caltrans Division of Aeronautics should structures be proposed that would penetrate the established 8:1 approach/departure surface (8 feet horizontal to 1 foot vertical), as depicted on the Helistop Layout Plan included with the permit. As identified in Table 4.7.2, Ronald Reagan UCLA Medical Center Helistop and Proposed Buildings, of the Draft SEIR, the proposed structures at the UNEX site would not penetrate the established 8:1 approach/departure surface, consistent with existing conditions and the requirements of the Caltrans Aeronautics Heliport Permit, and no hazards would result.

15. Exposure of future residents at the proposed housing sites, including the UNEX site, to noise from helicopters is addressed in Section 4.10, Noise and Vibration, of the Draft SEIR. As identified previously, helicopter operations occur approximately twice per day and none of the proposed housing sites are within the estimated annual 65 dBA CNEL noise level contour for the helicopter operations, which are shown on Figure 4.9-4 of the March 2009 LRDP Amendment Final EIR. The 65 dBA helicopter noise level contour

defines the area for aircraft noise impacts to noise-sensitive land uses. The helicopter noise levels experienced at the proposed housing sites would not be excessive.

16. Section 4.4, Cultural and Tribal Cultural Resources, of the Draft SEIR, addresses potential impacts to historic resources resulting from the proposed housing projects, including the UNEX site (refer to the discussion of Indirect Impacts starting on page 4.4-23 of the Draft SEIR). As identified, the proposed UNEX building would introduce a high-rise where one does not currently exist, but other tall buildings dating from the mid-20th century to the early 21st century are found in Westwood Village. None of the known or potential historic resources are directly adjacent to the UNEX site, and while the new development would be visible from each of the resources, each is sufficiently distant from the UNEX site so that the new development would not materially impact any aspects of their integrity. SurveyLA found Westwood Village does not retain sufficient historic integrity to be considered an eligible historic district. Therefore, no impacts to existing historic buildings would result from implementation of the proposed housing project at the UNEX site.

17. Please refer to Topical Response 4, which further addresses potential indirect impacts of the proposed housing project at the UNEX site to the Fox Theater tower.

Comment Letter 5

THE URBAN WILDLANDS GROUP, INC.
P.O. BOX 24020, LOS ANGELES, CALIFORNIA 90024-0020, TEL (310) 247-9719

October 7, 2017

Tracy Dudman, Senior Planner
Campus and Environmental Planning
UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, CA 90095-1365

Re: UCLA Long Range Development Plan Amendment (2017) and Student Housing Projects
Draft Subsequent Environmental Impact Report

Dear Ms. Dudman:

The Urban Wildlands Group is a Los Angeles-based conservation nonprofit dedicated to the protection of species, habitats, and ecological processes in urban and urbanizing areas. We have a long history at UCLA; four of our founding directors were UCLA faculty or students and we have vigorously engaged in campus planning issues in the past. As discussed in the UCLA Long Range Development Plan Amendment (2017) and Student Housing Projects Draft Subsequent Environmental Impact Report (DSEIR), we challenged the 2002 LRDP Final EIR because of its failure to recognize important biological resources and failure to adequately commit to mitigating losses of tree cover. We entered into an agreement with the Regents to settle that litigation that enshrined UCLA's commitment to replace trees lost to development at a 1:1 ratio and required environmental review of any impacts to any sensitive natural community within an area known as the "hillside area" between Veteran Avenue and Parking Lot 11. 1

The proposed Long Range Development Plan would add 1.5 million square feet of student housing to the campus. By any reasonable metric, this is a large increase in built area and the proposed housing locations densify an already dense campus. We acknowledge and appreciate that UCLA has not proposed to construct housing on the "hillside area" but the development of the campus will have significant impacts on visual resources from the surrounding community and remove even more of the open space and breathing room from the landscape. 2

Based on my experience reviewing many, many studio projects as a professor in the School of Architecture at USC, I believe that the DSEIR does not do a good job illustrating the size and massing of the proposed buildings within the context of the landscape. The renderings, both in the project description and the visual impacts analysis sections, are completely computer generated and do not even make an effort to accurately depict the landscape (e.g., Figure 3-9). As a result, the impact and appropriateness of the structures is harder to assess. It is clear, however, that in almost every instance the buildings are out of scale with their surroundings. For 3

1

example, the Lot 15 buildings would be up to 40 feet taller than the Hitch Residential Suites immediately adjacent. That the buildings across the street are of a similar height is not an appropriate comparison (Table 4.1-1). Rather, the comparison should be to buildings on the same side of the street as a transition to the benign use area and transition in massing to the adjacent single-family residential neighborhood.

3 cont.

The treatment of outdoor lighting in the DSEIR is cursory and inadequate in view of recent research on the impacts of outdoor lighting on human health and wildlife. In particular, the most recent nationwide study shows that living in locations with high levels of outdoor light at night significantly increases risk of breast cancer (James et al. 2017), which is consistent with other similar studies (Kloog et al. 2008, Kloog et al. 2009a, Kloog et al. 2009b, Kloog et al. 2010, Hurley et al. 2014, Kim et al. 2015, Portnov et al. 2016). The spectrum of light that impacts circadian rhythms and associated normal hormonal function the most is the blue range of the spectrum (Pauley 2004). As a result of the connection with cancer and other evidence, the American Medical Association (AMA) has adopted recommendations about outdoor lighting that include avoiding outdoor lighting with high blue-light emissions and only using lighting with a color temperature less than 3000K (which means that the light is more yellow than blue) (Kraus 2016).

UCLA has made some unfortunate choices with its outdoor lighting in the past decade. It has adopted a blue-rich light source for its outdoor lighting, which appears to be induction-type lamps. As a result, the outdoor lighting now substantially conflicts with AMA recommendations for protecting human health. Furthermore, the lighting that has been installed in recent years appears to conflict with past environmental review documents and mitigation plans. For example, the lighting of Parking Structure 3 was supposed to be fully shielded and not visible from off-site, as promised in the mitigation measures for the Parking Structure 3 expansion. Recent lighting changes in the structure are not fully shielded and the vegetation that was supposed to fully separate the building from Hilgard and Sunset has not materialized, meaning that vehicles on these streets now receive direct glare from inside the structure.

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We strongly recommend that the now-large body of literature connecting exposure to blue-rich light at night with circadian disruption and resulting disease (see, e.g., Haim and Portnov 2013, McFadden et al. 2014, Rybnikova et al. 2016) be recognized and the lighting section be updated to include mitigation measures that reduce human exposures. These would include full cut-off lighting so that no light shines into dormitory windows or off-campus, that the lowest feasible intensity be used, and, critically, that spectral output in the blue spectrum be minimized pursuant to AMA recommendations by using a color temperature of 3000K or lower, and preferably 2700K (which has the color of an incandescent bulb). Such color temperatures can be achieved with off-the-shelf products available from major LED manufacturers and therefore such a mitigation measure is feasible.

The biological resources section of the DSEIR should address the possibility of bird collisions with the mid- to high-rise buildings that are proposed at the different project sites. Birds are killed and injured in collisions with buildings that have glass windows (Loss et al. 2014, Cusa et al. 2015, Parkins et al. 2015), which presumably will be design features for each of the buildings proposed. As a cumulative impact, mortality of birds at buildings is significant (Manville 2009, Longcore and Smith 2013) and failure to design buildings to minimize such collisions could be

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seen as a violation of the Migratory Bird Treaty Act. Fortunately, guidelines are available to ensure that buildings do not kill birds (Sheppard 2015) and they can be adopted as a mitigation measure. They are feasible measures because they have already been adopted by various jurisdictions around the United States (e.g., San Francisco) and are under consideration for adoption for all federal buildings right now by the U.S. Senate (Federal Bird-Safe Buildings Act, S. 1920, introduced by Senator Booker). LEED also has a pilot credit (#55) for avoidance of bird collision hazard. 5 cont.

Several small errors and misleading statements in the biological resources section should be corrected. On page 4.3-4, the DSEIR states that no special status vegetation is found on the developed areas of campus. The next paragraph should clarify that special status vegetation is found on the campus in undeveloped portions (e.g., coastal sage scrub, native grassland). The presence of these sensitive vegetation types is mentioned, but their special status is somehow omitted, even though these vegetation types are clearly identified as being sensitive in the reference cited from the California Department of Fish and Wildlife (CDFW). 6

On page 4.3-8, the DSEIR lists bird species that were found in the hillside area north of the Lot 15 project site. The DSEIR says that these species will be found at the other project sites. The list includes oak woodland indicator species such as Oak Titmouse and other species that would not be found at any of the sites other than Lot 15. Although some of the species are urban tolerant and would be found even at the UNEX site (e.g., Mourning Dove), not all of the species listed are that common. 7

On page 4.3-8, only two mammal species are listed as being at the Lot 15 site (desert cottontail and California ground squirrel) and the claim is made that they would be at the other project sites as well. Additional mammal species are possibly present at the Lot 15 site (including sensitive bat species, for which no surveys were conducted, coyote, and San Diego woodrat). But desert cottontail and California ground squirrel would not be found at the UNEX site or the other campus sites and the text should be amended to reflect this reality. 8

On page 4.3-12, the DSEIR states that "None of the mapped communities are considered special status by CDFW (CDFG 2010). However, local jurisdictions may consider California sagebrush scrub, California sagebrush scrub–grassland ecotone, California sagebrush scrub–non-native grassland ecotone, and coast live oak to be locally rare." This statement is simply not true. The referenced CDFW document clearly identifies all coastal sage scrub habitats as being rare, which does give them a special status. The proposed projects would not impact these communities and so the point is moot, but CDFW guidelines do consider all sagebrush scrub and native grassland habitats to be rare and have guidelines for assessing impacts to them (see https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Background). 9

Finally, we agree with the analysis that development of the Sunset Canyon site and development of the Lot 15 site with noisy recreational facilities (Alternative 4) would not be an environmentally preferable alternative. 10

Please feel free to contact me at longcore@urbanwildlands.org if you have any questions regarding these comments.

Sincerely,

Travis Longcore, Ph.D.
Science Director

About the Author

Dr. Travis Longcore is Science Director of The Urban Wildlands Group and an Assistant Professor of Architecture, Spatial Sciences, and Biological Sciences at the University of Southern California. He is a core faculty member in the Landscape Architecture graduate program and the undergraduate major in GeoDesign. He is a Faculty Affiliate of the GIS Research Laboratory and the Wrigley Institute for Environmental Studies. From 2008 to 2015 he was Associate Professor (Research) in the Department of Geography and then the Spatial Sciences Institute at USC, while also serving as Adjunct Associate Professor at the UCLA Institute of the Environment and Sustainability, where taught the senior practicum in Environmental Science. From 2000 through 2009 he was a research associate and associate director of the USC Center for Sustainable Cities. Dr. Longcore earned his M.A. and Ph.D. from UCLA in 1999 as a National Science Foundation Graduate Research Fellow.

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Response to Comment Letter 5
Travis Longcore, Ph.D., Science Director
The Urban Wildlands Group, Inc.
October 7, 2017

1. This introductory comment provides background information on The Urban Wildlands Group and does not question the content or conclusions of the Draft SEIR; no response is required.

2. Potential aesthetic impacts and changes in visual character are addressed in Section 4.1, Aesthetics, of the Draft SEIR. The analysis takes into consideration the loss of existing vegetation at the proposed housing sites and concludes that although there would be a change in visual character, the proposed housing projects would not substantially degrade the existing visual character or quality of the sites or their surroundings. As required by PP 4.1-2(d), the landscaped buffers along the western and northern campus boundaries would be maintained. Further, as required by Mitigation Measures (MMs) 4.3-1(c) and MM 4.3-4 from the March 2009 Long Range Development Plan (LRDP) Final Environmental Impact Report (EIR), which are incorporated into the proposed Project, mature trees removed would be replaced at a 1:1 ratio and protected trees would be replaced at a 2:1 ratio. The commenter does not provide any evidence to support the assertion that significant impacts on visual resources would result from implementation of the proposed Project.

3. The computer-generated graphics for the proposed housing projects in the project description (refer to Figures 3-9, 3-11, 3-13, 3-15, and 3-17) are provided to visually depict the proposed massing of the buildings in relation to surrounding development. These graphics are not intended to be visual simulations. Similarly, with the exception of the Lot 15 site, the conceptual renderings of the proposed housing projects are not intended to be visual simulations, rather they conceptually depict the height and massing of the buildings from certain vantage points surrounding the sites. The insets of photographs depicting the existing view are provided on these exhibits to show the existing visual character of the site and surrounding areas from similar vantage points. For the Lot 15 site, computer generated visual simulations have been provided using site photographs (refer to Figures 4.1-8a through 4.1-8d) to demonstrate the change in views with implementation of the proposed housing structures. The before and after views are provided for reference. The aesthetics analysis presented in the Draft SEIR focuses on the change in visual character of the site and surrounding areas, this is not limited to immediately adjacent structures, rather the larger area that informs the visual character of the area. With respect to the Lot 15 site and the Northwest zone, the analysis takes into consideration the immediately adjacent Saxon and Hitch residential suites and the residential buildings across De Neve Drive, which are near the proposed housing site and within the same viewshed. The residential uses across De Neve Drive are appropriately considered as they influence the existing visual character of the area surrounding the Lot 15 site.

4. Although not required to reduce a significant impact, the design teams for the five sites agree in the use of 3000K, or lower color temperature for all exterior site lighting. From an aesthetic point of view, it is the most comfortable and welcoming from a security standpoint for pedestrians and students. Cooler tones can create a harsher light in an exterior environment and do not develop a welcoming experience. General site lighting (poles, steplights, bollards, canopy downlights, etc.) will be specified to be 3000K, or lower.

   There are scientific and industry-specific reports that recognize a correlation between light and potential human health impacts, both positive and negative. A position statement

presented by the Illuminating Engineering Society on lighting-related issues notes that the spectral distribution from LED sources can widely vary and even a 3000K color temperature or lower can have higher melanopic content than cooler color temperatures.[25] While the design team supports the IES position regarding the use of 3000K, or lower color temperature, the teams also understand that research on this lighting issue is still in early stages.

The use of "Full-Cutoff" general lighting fixture is not recommended for a couple of reasons:

- The current UCLA standard pole is a more traditional acorn-style product. The design teams intend to remain architecturally in step with previous design of the campus to support a cohesive campus environment. UCLA has updated their campus standard to include an LED retrofit and uplight shield which helps limit uplight spill but it would not fall under the "Full Cutoff" classification.
- The teams are designing a safe exterior environment, supported by some vertical illumination for pedestrians. The use of landscape or building accent lighting allows pedestrians to identify destinations along with potential people or objects in their way. In addition, the use of the UCLA standard pole produces vertical illumination on to people's faces which again supports a sense of safety being able to identify facial expressions and body language of approaching pedestrians. The intent is to utilize the standard pole element at highly trafficked pedestrian paths and pathway intersections to ensure vertical illumination when pedestrians may be interacting with each other.
- Both interior and exterior lighting for the five sites would limit, to the extent possible, any spill over into off-site or off-campus uses.
- Lastly, as residential buildings, the rooms would have interior shade elements (blinds, curtains, etc.) allowing students to block any exterior light during the evening hours. The use of these shading devices is discretionary; however, it is anticipated that shades would be drawn throughout the evening, limiting any undesired light exposure.

It should also be noted that lighting at the existing Parking Structure 3 is not relevant to the proposed Project and no response to this comment is required.

5. The student housing projects have considered the issue of bird strikes, both from a geographical and design point of view. Geographically, the sites are currently developed urban sites that are not known to be a major migratory path for either foraging/feeding grounds or nesting. Placing buildings between or adjacent to either of these types of bird habitat can generate significant bird strikes. Although the UCLA campus is not a part of a major migratory bird path, it is known that migratory birds, in small groups or individuals, do come through the Westwood area and that native local birds are present, either seasonally or year-round. As described in Section 4.3 Biological Resources and Appendix D of the Draft SEIR, focused surveys for California gnatcatcher were performed in the

[25] Illuminating Engineering Society. 2017 (accessed December 7, 2017). *IES Board Position on AMA CSAPH Report 2-A-16, Human and Environmental Effects of Light Emitting Diode (LED) Community Lighting.* https://www.ies.org/policy/position-statements/ies-board-position-on-ama-csaph-report-2-a-16-human-and-environmental-effects-of-light-emitting-diode-led-community-lighting/?utm_source=IALD+and+LIRC+Members&utm_campaign=ead06735cf-publicpolicy&utm_medium=email&utm_term=0_d00701720b-ead06735cf-217861393

area adjacent to the Lot 15 site, bird species observed during the survey are identified in the survey report.

From a design perspective, mid- and high-rise structures that incorporate curtain walls of glass experience higher rates of bird strikes than buildings with less or minimal glazing. Large amounts of glass can create either an illusion of open space from transparency (such as a glassed-in lobby) or a highly-reflective glass curtain wall can act as a mirror of nearby vegetation that confuses the birds into thinking that they are flying towards a tree.

The Warren, Bradley, Drake, and Lot 15 projects are proposed as mid-rise buildings (appx. 8-10 stories) whereas the UNEX project is a high-rise building, of up to 17 stories (refer to the current design description provided in Section 2.2 of this Final SEIR). On the ground floor of the projects, there would be a mix of common space and lobby/entrance areas that would have double-high space with large plate-glass windows. These areas would be buffered through some or all of the following: dense landscaping, recessed under the building, or located behind an arcade. Further, although not required to reduce a significant impact, the proposed designs of the sites have considered additional elements to reduce bird strikes and would incorporate a mix of the following design elements:

- solid, opaque cladding;
- residential-sized windows;
- sunshades;
- interior curtains or blinds;
- UV-reflecting film applied to glass surfaces;
- non-reflective glass;
- fritted glass; and
- dense landscaping or arcades around large glassed areas.

6. The referenced paragraph on page 4.3-4 of the Draft SEIR (second paragraph under "Special Status Vegetation Types") is hereby revised as follows:

> As further described under the discussion of "Vegetation" below, the area surveyed in the Northwest zone to support preparation of this Draft SEIR consists of California sagebrush scrub–grassland ecotones, including native grassland, in the northern portion of the mapped area and coast live oak and ornamental trees with non-native grassland in the southern portion. **Coastal sage scrub, native grasslands, and coast live oak woodlands are often considered special status by local jurisdictions. However, it should be noted that** the limited extent of native habitat in this parcel and lack of contiguous off-site habitat reduces the overall habitat quality.

With the respect to the designation of "special status", Table 1 below identifies the California Department of Fish and Wildlife (CDFW) (2010) rankings for each vegetation type mapped adjacent to the Lot 15 project site; this is the source cited in the Draft SEIR as noted in this comment. As stated in the CDFW (2010) methodology, rankings of G1/S1–G3/S3 are considered special status. As shown in the table below, the only special status vegetation type mapped near the Lot 15 site (refer to Figure 4.3-1 of the Draft SEIR) is California sagebrush scrub-native grassland ecotone.

TABLE 1
VEGETATION TYPES AND ASSOCIATED RANKINGS

Vegetation Type	Ranking	Definition of Ranking
California sagebrush scrub	G5/S5	Secure (**c**ommon; widespread and abundant)
California sagebrush scrub-**native grassland** ecotone	G5/S5–**G3/S3**	Secure (**c**ommon; widespread and abundant)– Vulnerable (at moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors)
California sagebrush scrub-non-native grassland ecotone	G5/S5–G4/S4	Secure (**c**ommon; widespread and abundant) – Apparently secure (uncommon but not rare; some cause for long-term concern due to declines or other factors)
Mulefat scrub	G4/S4	Apparently secure (uncommon but not rare; some cause for long-term concern due to declines or other factors)
Non-native grassland	G4/S4	Apparently secure (uncommon but not rare; some cause for long-term concern due to declines or other factors)
Coast Live Oak	G4/S4	Apparently secure (uncommon but not rare; some cause for long-term concern due to declines or other factors)
Coast Live Oak/Western Sycamore	G4/S4	Apparently secure (uncommon but not rare; some cause for long-term concern due to declines or other factors)
Ornamental Plantings	None	None
Coast Live Oak/Ornamental Plantings	G4/S4–None	Apparently secure (uncommon but not rare; some cause for long-term concern due to declines or other factors)
Developed	None	None

One purpose of the vegetation classification is to assist in determining the level of rarity and imperilment of vegetation types. Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe's Heritage Methodology, in which all alliances are listed with a G (global) and S (state) rank. For alliances with State ranks of S1-S3, all associations within them are also considered to be highly imperiled. Refer to the current standard list of natural communities to determine if any of these types are considered of special concern (S1-S3 rank); if so, the CEQA Guidelines checklist (at IVb) should be considered.

Bold text in the table above indicates this vegetation type is considered special status.

G1	Critically Imperiled—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2	Imperiled—At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.
G3	Vulnerable—At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.
G4	Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5	Secure—Common; widespread and abundant.

Source: California Department of Fish and Game (CDFG). 2010 (September). Hierarchical List of Natural Communities. Sacramento, CA: CDFG.

The text on page 4.3-12 of the Draft SEIR related to Natural Communities (1st paragraph under "Direct Impacts") is hereby revised as follows to correct the reference to native grassland. None of the other vegetation types are considered special status because they are ranked as "secure" or "apparently secure".

> With the exception of the Lot 15 site, the project sites do not include and are not located in proximity to natural communities. ~~None o~~ Of the mapped communities, the only one that is considered~~are considered~~ special status by CDFW (CDFG 2010) is California sagebrush scrub–native grassland. However, local jurisdictions may consider California sagebrush scrub, California sagebrush scrub–native grassland ecotone, California sagebrush scrub–non-native grassland ecotone, and coast live oak to be locally rare.

7. The text on page 4.3-8 of the Draft SEIR (2nd paragraph) is hereby revised as follows to clarify the discussion of bird species at the proposed housing sites.

> Bird species ~~observed in the survey area north of the Lot 15 site and~~ expected to occur at all ~~the other four~~ five project sites include mourning dove (*Zenaida macroura*), rock pigeon (*Columba livia*), Anna's hummingbird (*Calypte anna*), ~~Allen's hummingbird (*Selasphorus sasin*), red-shouldered hawk (*Buteo lineatus*),~~ black phoebe (*Sayornis nigricans*), ~~California scrub-jay (*Aphelocoma californica*),~~ American crow (*Corvus brachyrhynchos*), ~~oak titmouse (*Baeolophus inornatus*),~~ bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), American robin (*Turdus migratorius*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), orange-crowned warbler (*Oreothypis celata*), ~~spotted towhee (*Pipilo maculatus*),~~ California towhee (*Melozone crissalis*), and song sparrow (*Melospiza melodia*). Additional bird species observed in the survey area north of the Lot 15 site, include Allen's hummingbird (*Selasphorus sasin*), red-shouldered hawk (*Buteo lineatus*), California scrub-jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), and spotted towhee (*Pipilo maculatus*).

8. The text on page 4.3-8 of the Draft SEIR (3rd paragraph) is hereby revised as follows to clarify the discussion of mammal species at the proposed housing sites.

> At the Warren Hall and UNEX sites, which are primarily developed, only urban-tolerant wildlife species would be expected to occur such as northern raccoon (*Procyon lotor)* and Virginia opossum (*Didelphia virginiana*). Additional m~~M~~Mammal species ~~or sign of their presence~~ observed or expected to occur at the Lot 15 site, north of the Lot 15 site~~, and expected to occur at the other four project sites,~~ and at the Bradley and Drake Stadium sites include desert cottontail (*Sylvilagus audubonii*), ~~and~~ California ground squirrel (*Otospermophilus beecheyi*), and coyote (*Canis latrans*). North of the Lot 15 site, woodrat (*Neotoma* sp.) could also occur. Additionally, bat species that could roost in woodland or ornamental vegetation include Yuma myotis (*Myotis yumanensis*), Mexican free-tail (*Taderida brasiliensis*), and hoary bat (*Lasiurus cinereus*).

It should be noted that no focused surveys for special status roosting bats are necessary because the limited loss of potential roosting trees would not cause a substantial loss of roosting habitat in the region, especially since any impacted trees would be replaced and the woodland habitat adjacent to Lot 15 would not be directly impacted.

9. The referenced document (CDFW 2010) provides a rank for each vegetation alliance or association. The specific vegetation alliance found in the project study area, California

sagebrush scrub (*Artemisia californica* alliance), is ranked by CDFW as G5/S5, which is considered "secure – common, widespread and abundant" at both the global and state level. As discussed above in Response to Comment 6 and in the Draft SEIR, despite this G5/S5 ranking, local jurisdictions may consider coastal sage scrub to be special status. As acknowledged by the commenter, none of the coastal sage scrub or native grassland vegetation types would be impacted by the project.

CDFW's website[26] includes links to multiple lists: (1) Natural Communities List Arranged Alphabetically by Life Form; and (2) Hierarchical List of Natural Communities with Holland Types. CDFW's website states that the current Natural Communities List (CDFW 2010) "replaces all other lists of terrestrial natural communities and vegetation types developed for the California Natural Diversity Database." In other words, the alliance level classification should be used where it is known. CDFW's hierarchical list includes generalized vegetation categories in order to cross-reference earlier vegetation nomenclature systems that are referenced in the California Natural Diversity Database (CNDDB). On the website, CDFW states that "within this hierarchy, we have placed the natural communities as described by Holland (1986) that are currently found in the pick list in CNDDB Rarefind. Users more familiar with Holland types can see the approximate relationships of those types to alliances and associations, and thus transition to the State's new classification system." The hierarchical list shows the Holland (1986) vegetation type of Venturan coastal sage scrub as G3/S3, which is considered "vulnerable – at moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors"; however, CDFW states that the older information is for informational purposes and that the newest classification (California sagebrush alliance) should be used based on the newest nomenclature.

10. The commenter's concurrence with the Draft SEIR conclusion that development of recreational facilities at the Lot 15 site, as proposed as part of Alternative 4 – Alternative Northwest Zone Site/Sunset Canyon Recreation Center, is not the environmentally preferable alternative is noted and will be forwarded for consideration to the decision makers.

11. This comment provides information about the author of the comment letter and does not question the content or conclusions of the Draft SEIR; no response is required.

[26] https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/List

Comment Letter 6

WESTWOOD COMMUNITY COUNCIL, INC.
10940 WILSHIRE BOULEVARD, SUITE 1400
LOS ANGELES, CA 90024
WRITER'S DIRECT CONTACT – T: (213) 448-8147 • E: STEVESANN2001@YAHOO.COM

VIA EMAIL TO TRACY DUDMAN – t.dudman@capnet.ucla.edu

October 9, 2017

Ms. Tracy Dudman, Senior Planner
Campus and Environmental Planning
UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, CA 90095-1365

Re: Comments on the Draft Subsequent Environmental Impact Report (EIR) for the University of California Project titled "UCLA Long Range Development Plan Amendment (2017) and Student Housing Projects". SCH No. 2017051024

Dear Ms. Dudman:

Thank you for providing information on the above captioned Project. This letter is submitted on behalf of the Westwood Community Council* (WCC) to advise you of the fact that at our meeting on September 19, 2017, our Council adopted the following Resolution which expresses the official position of our Council on this project:

> *"Resolved that the Westwood Community Council, which represents the 150,000 stakeholders who live, work, own property, own and operate businesses, attend school, or participate in a wide variety of organizations within the 90024 community, adopts the following position statement on the proposed Amendment to UCLA Long Range Development Plan (2017) and UCLA Student Housing Projects including: The WCC opposes the proposed construction of a 20-story, 202-foot-high undergraduate dormitory high-rise tower containing 1,350 new undergraduate beds in a 350,000-square-foot complex on a 1.0 acre site proposed at the northwest corner of Gayley and Le Conte Avenues (the current UNEX site). Instead, the WCC supports the construction of replacement dormitory building on the UNEX site equal to the existing height of the current University Extension building; and the reallocation of the remaining unbuilt height, density, and beds from the UNEX site to the Warren Hall, Tom Bradley, and/or Drake Stadium sites. Further, the WCC calls on the University of California Office of the President and The Regents to prepare, circulate, and certify a new, updated, and comprehensive UCLA Long Range Development Plan in accordance with CEQA."*

1

Please take note that our Council expresses its **SUPPORT** of the University's stated goal of adding up to 6,900 beds of new undergraduate and graduate student housing. We also acknowledge that the university is ***the best landlord*** for UCLA students, and provides high quality housing, excellent food service, comprehensive support services, study spaces, and professionally trained residential life staff to create a high quality living and learning experience.

2

However, the intent of our WCC resolution must be clearly understood to express our Council's serious concern over the complete failure of the project DEIR to analyze in any respect whatsoever the highly significant negative environmental impacts that would result from UCLA constructing a 20-story, 202-foot-tall high rise dorm tower to replace the 8-story UNEX building at the highly visible corner of Le Conte and Gayley Avenues in Westwood Village. 2 cont.

These significant negative environmental impacts include, but are not limited to: marring the historic viewshed of the Westwood Village skyline as set against the Santa Monica Mountains, with the intrusion of a totally out-of-scale 20-story, 202-foot high rise dormitory tower, which tower would rise significantly above the skyline of the Santa Monica Mountains. These impacts would permanently impair the historic "skyline view" of the Village when seen from such key southerly points as the intersection of Wilshire and Westwood Boulevards (which, since 1929, has served as the principal and historic "gateway" into Westwood Village and to UCLA's main entrance), as well as from Westwood Boulevard at Ashton Avenue, Glendon Avenue at Wilshire Boulevard, and Gayley Avenue at Wilshire, among other vantage points.

Additionally, the construction of a massive 20-story, 202-foot-tall dormitory high rise tower would obliterate the "focal view" of the iconic 170-foot spire of the landmark Fox Westwood Village Theater, a recognized historic resource, when set against the much taller and bulkier high-rise dorm structure proposed for the UNEX site (which is just 315 feet from the Fox Theater). This "focal view" of the Fox Theater and its graceful spire would be destroyed when seen from such prominent southerly points as the intersection of Wilshire and Westwood Boulevards (as noted above, the historic "gateway" point into Westwood Village and into UCLA's main campus entrance), as well as from Westwood Boulevard and Ashton Avenue, Westwood Boulevard at Kinross Avenue, Glendon Avenue at Wilshire, Glendon at Lindbrook Drive, Glendon at Kinross Avenue, Gayley Avenue at Wilshire Boulevard, and Broxton and Weyburn Avenues, among other key vantage points within and around Westwood Village. 3

Of course, the iconic 1931 Fox Westwood Village Theater, with its soaring spire, is a renowned historic resource in Westwood Village. It is an internationally recognized symbol of Westwood Village and the motion picture industry, thanks to its starring roles as one of the most oft-used sites for Hollywood Red Carpet Premieres for more than 85 years. The cultural, architectural, and historical significance of the Fox Theater is directly tied to the history of Westwood Village and its founding Janss Investment Corporation, which commissioned the theater's construction. Of course the Janss Corp. is inextricably tied to UCLA and the establishment of its new campus in Westwood, when brothers Edwin and Harold Janss agreed to sell 375 acres of their land at a significant discount, land that once was part of the great Rancho San Jose de Buenos Aires. This land was purchased with municipal bonds financed by four cities – Los Angeles, Beverly Hills, Santa Monica, and Venice – and then gifted to The Regents to become UCLA's new campus.

In 1988 the Fox Westwood Village Theater was declared by the City of Los Angeles as a Historic-Cultural Monument. Subsequently it has been found eligible for listing on both the California Register of Historic Resources as well as the National Register of Historic Places, the official listing of the nation's most significant architectural and cultural treasures. Just as Royce Hall, Powell Library, Haines Hall, Humanities Building, the Quad, and Janss Steps are recognized by UCLA as highly significant buildings and open spaces in the historic core of the campus, the

Ms. Tracy Dudman
October 9, 2017
Page Three

Fox Westwood Village Theater is an equally iconic and significant historic resource in the Village. Given these facts, all potentially significant environmental impacts of the proposed 20-story, 202-foot-high tower project at the UNEX site upon the "skyline view" of Westwood Village and the Santa Monica Mountains, as well as on the "focal view" of the Fox Westwood Village Theater should have been analyzed in the DEIR. Unfortunately, they were not. These are fatal flaws that render the DEIR highly vulnerable under any reasonable CEQA analysis. 3 cont.

Further, the construction of a 20-story, 202-foot-tall dormitory tower at that particular corner would have a significant negative environmental impact on not one, but two, special planning zones established by ordinance in the City of Los Angeles. Both the Westwood Village Specific Plan area, which immediately abuts the UNEX site to the south, as well as the North Westwood Village Specific Plan area (which actually includes the UNEX site), have height limits of 45 feet. Inexplicably, the DEIR utterly fails to properly evaluate the impact of constructing a 20-story, 202-foot-tall massive dormitory structure that would be highly incompatible with the essential low-rise to mid-rise character of these two special planning zones. The UNEX parcel at the intersection of Le Conte and Gayley Avenues, is the gateway site into both the historic Westwood Village Specific Plan area and North Westwood Village Specific Plan area. 4

Even though the University of California claims an exemption from City zoning rules, the University is NOT exempt from the CEQA requirement of "compatibility" with adjacent land use elements, as well as impacts on known cultural resources, among other key elements. 5

Therefore, we call upon the University, UCLA Administration, Housing staff, Capital Program planners, and architects to take these concerns and objections seriously, and REDESIGN and REDUCE the height, massing, and bed count at the UNEX site by approximately 50 percent, build within the existing height envelope of the current UNEX building, and REDISTRIBUTE the remaining unbuilt beds to the Warren Hall, Bradley Hall, and/or Drake Stadium sites.

Please note that our Council is NOT calling for the reduction of even one bed requested by UCLA! We are simply calling for a redesign of the out-of-scale high rise tower at Gayley and Le Conte into a mid-rise tower that does not exceed the height of the existing UNEX building, that respects the predominant height, scale, and character of the historic Westwood Village Specific Plan area and the North Village Specific Plan area, and that redistributes the remaining unbuilt beds from the UNEX site among three of the other project sites. *Certainly this can be accomplished if there is the will on the part of the University to do so. This is the win-win-win scenario: a win for the UCLA students, a win for the University, and a win for the Westwood community by allowing this multi-phased project to go forward without undue delay or uncertainty caused by lengthy and costly legal challenges.* 6

Additionally, we call upon The Regents to honor all existing agreements with your Westwood neighbors, in order to foster a continued harmonious relationship between the campus and community. As our Resolution states, we also call upon the University of California Office of the President and The Regents to prepare, circulate, and certify a new, updated, and comprehensive UCLA Long Range Development Plan in accordance with CEQA. Given the University's claim of a "substantial change in circumstances" as the basis for violating the 1978 Stipulated Agreement of Compromise and Order with the Westwood Hills Property Owners Association, as well as the addition of 1,500,000 sf of dorm space that was never contemplated or evaluated under previous LRDPs or subsequent amendments, and the opening of the Geffen 7

Academy at UCLA – a middle and senior high school for 620 students on the crowded UCLA West Campus that was never foreseen – it is clear that a new UCLA LRDP is long overdue. 7 cont.

In addition to the aforementioned Resolution, following this letter are a number of questions that have been submitted by various members of our Council in connection with this project. On behalf of our Council and these individual members, I am requesting written responses to all of these questions, as part of the Final EIR process for the aforementioned Project. 8

Kindly send your responses to this letter and attachments, as well as all other responses to comments received as part of this DEIR process, to the undersigned, at the address that appears in the caption of this letter. Thank you very much. 9

Very Truly Yours,

For the Westwood Community Council, Inc.

Steven D. Sann

Steven D. Sann, J.D.
Chair

Attachment

cc: The Honorable Jerry Brown, Governor, State of California
The Honorable Gavin Newsom, Lieutenant Governor, State of California
The Honorable Ben Allen, 26th District Senator, California State Senate
The Honorable Sebastian Ridley-Thomas, 54th District Assemblymember, California State Assembly
The Honorable Ted Lieu, California's 33rd District Representative, United States Congress
The Honorable Eric Garcetti, Mayor, City of Los Angeles
The Honorable Paul Koretz, Fifth District Councilmember, Los Angeles City Council
President Janet Napolitano, University of California
Chair George Kieffer, The Regents of the University of California
Vice Chair John Perez, The Regents of the University of California
Members of the Westwood Community Council

**The Westwood Community Council, Inc. (WCC) is the oldest, largest, and most broadly-based Westwood community-wide organization that represents the more than 150,000 stakeholders who live, work, own property, own and operate businesses, attend school, or participate in a wide variety of organizations within the 90024 community. Established as a California non-profit public benefit corporation, the WCC includes representatives and members from business and commercial property owners, merchant and business organizations, Westwood's business improvement district, four major homeowner associations, apartment and condominium multi-family residential renters and owners, senior citizen residential organizations, K-12 public and private schools, non-profit organizations, religious institutions, volunteer service and civic groups, parks and recreation organizations, veterans and public safety groups, environmental and land use organizations, UCLA undergraduate and graduate students, UCLA faculty and staff, and major arts and cultural institutions. The boundaries of the WCC, which generally follow the boundaries of the Westwood Community Plan area for the City of Los Angeles, are: Sunset Boulevard on the north, Santa Monica Boulevard on the south, the Beverly Hills border on the east, and the 405 Freeway on the west.* 10

Response to Comment Letter 6
Steven D. Sann, J.D., Chair
Westwood Community Council, Inc.
October 9, 2017

1. This introductory comment documents the resolution adopted by the Westwood Community Council regarding the proposed Project and does not question the content or conclusions of the Draft SEIR; no response is required. However, it should be clarified that the resolution incorrectly identifies that the California Environmental Quality Act (CEQA) requires "The Regents to prepare, circulate, and certify a new, updated, and comprehensive UCLA Long Range Development Plan…". Rather, CEQA requires that environmental impact reports be prepared for Long Range Development Plans (refer to California Public Resources Code Section 21080.09 and State CEQA Guidelines Section 15081.5).

2. The commenter's support for the provision of 6,900 new beds on campus and concern regarding the analysis of potential impacts related to the proposed 20-story building at the UNEX site is noted and will be forwarded for consideration to the decision makers. Specific comments regarding the proposed housing at the UNEX building are detailed in the comment letter and addressed in the responses below. It should also be noted that the current design for the proposed housing project at the UNEX site that will be considered by The Regents of the University of California (The Regents) is described in Section 2.2 of this Final SEIR.

3. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including potential aesthetic/visual impacts and potential impacts to a historic resource (Fox Theater).

4. As further discussed in Topical Response 4, and explained in Section 4.9, Land Use and Planning, of the Draft SEIR (refer to the discussion of Local Planning Programs on page 4.9-11 and 4.9-12), the University of California is not subject to municipal regulations, including open space requirements outlined in the Westwood Village Specific Plan and North Westwood Village Specific Plan.

5. The commenter incorrectly asserts that CEQA requires compatibility with adjacent land use elements. Rather, as identified on page 4.9-13 of the Draft SEIR (under the discussion of Thresholds of Significance), "According to Appendix G of the State CEQA Guidelines, a project will normally have a significant adverse environmental impact related to land use and planning if it will:

    - Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect".

    The City of Los Angeles does not have jurisdiction over the project, therefore, any conflict with the City General Plan or other regulatory plans or programs would not be considered a significant impact pursuant to CEQA.

    Potential impacts to cultural resources are thoroughly addressed in Section 4.4, Cultural and Tribal Resources, of the Draft SEIR. This includes an analysis of potential impacts to historical, archaeological, tribal cultural and paleontological resources.

6. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, and Section 2.2 of this Final SEIR, which discusses the current design for the structure at the UNEX site. The commenter's recommendation to build a new building at the UNEX site similar in height to the existing building and redistribute the remaining unbuilt beds to the Warren Hall, Bradley Hall and/or Drake Stadium sites is noted and will be forwarded for consideration to the decision makers. However, significant and unavoidable impacts resulting from the proposed housing project at the UNEX site are cumulative in nature or related to construction activities that would occur with development at the UNEX site in combination with other sites and would not be avoided if the UNEX site were developed with a smaller building and remaining beds distributed to the other sites. Therefore, any such alternative would not avoid or eliminate the project impacts identified in the Draft SEIR and further analysis of this suggested alternative is not required.

7. Please refer to Topical Responses 2 and 3, which address UCLA's LRDP, and the Stipulated Agreement of Compromise and Order (Stipulated Agreement) between the Westwood Hills Property Owners Association (WHPOA) and The Regents, respectively. Also, refer to Response to Comment 1 above, which addresses CEQA requirements related to preparation of an LRDP.

8. This comment mentions additional questions; no additional questions were provided by the commenter and no response can be provided. It should be noted that UCLA requested the referenced materials on October 11, 2017 and no response has been received to date.

9. The Final SEIR, including all responses to comments received on the Draft SEIR, will be provided to the commenter.

10. This comment (represented as a footnote to the letter) provides information about the Westwood Community Council, Inc., and does not question the content or conclusions of the Draft SEIR; no response is required.

Comment Letter 7

WHPOA

WESTWOOD HILLS PROPERTY OWNERS ASSOCIATION

INCORPORATED 1958

October 9, 2017

Tracy Dudman, Senior Planner
Campus and Environmental Planning
UCLA Capital Programs
1 060 Veteran A venue
Los Angeles, California 90095-1365
t.dudman@capnet. ucla.edu

RE: UCLA Long Range Development Plan Amendment (2017) and Student Housing Projects
Comments to Draft SEIR

Dear Ms. Dudman:

The Westwood Hills Property Owners Association ("WHPOA") appreciates this opportunity to comment on the UCLA's Draft Subsequent Environmental Impact Report, Long Range Development Plan Amendment, and Student Housing Projects (referred to hereinafter as the "DEIR").

As described, the proposal under review would add housing for 6,900 students in 1.5 million gross square feet of new development distributed among five campus sites. One of those sites (the "Lot 15" site) is in an area controlled by the 1978 Stipulated Agreement of Compromise and Order Thereon between the Regents and the Westwood Hills Property Owners Association ("Stipulated Agreement"), which is of particular interest to us. 1

We submit the following comments to the DEIR:

1. Metro Purple Line Extension Project ("Subway to the Sea")—In recent months, Metro has disclosed its plans to begin construction in January 2018 on the Westwood segment of the Purple Line, which is a year earlier than indicated in the DEIR. As a result, there is expected to be extensive construction activity along Wilshire Blvd. between Westwood Blvd. and Veteran Ave., as well as reductions in lane capacity along Wilshire. The DEIR is seriously deficient in failing to analyze the impacts of this Metro Purple Line construction beginning in January 2018.

Please analyze the impacts of Metro Purple Line construction in Westwood scheduled to begin in January 2018. Items to be analyzed include, without limitation, impact on the daily flow of traffic coming into and out of UCLA from/to the south and the resulting impacts on emergency access to the hospital on campus, and on the haul routes for each project identified in the DEIR. 2

P.O. BOX 24515 • LOS ANGELES, CA 90024

2. Haul Routes. Please explain (and correct) the inconsistency in description of haul routes for the Lot 15 site. Page 3-22 identifies that haul route for the Lot 15 site as I-405, to Wilshire, to Gayley, to Strathmore, to Charles Young Drive, to DeNeve. But page 4.10-23 says the Lot 15 site is one of three sites that include Veteran Ave.

Please ensure that Veteran Ave. north of Strathmore is excluded from the haul routes for each project identified in the DEIR. In addition, please ensure that Montana Ave. and Sunset Blvd. are also excluded from the haul routes for each such project.

3

3. Lot 15 Project and Stipulated Agreement. Per recent discussions and tentative agreements in principle between WHPOA and UCLA related to amendment of the map included as part of the Stipulated Agreement regarding the benign use area:

a. Correct the description of, drawings and maps related to the Lot 15 site so as to conform with the September 19, 2017 version of the project; and

b. In every place where mention is made of the Regents being asked to make a determination regarding changed circumstances under the Stipulated Agreement, revise to indicate that such determination will not be requested and the Stipulated Agreement will remain in effect in accordance with its terms excepting only a proposed modification of the map setting forth the boundaries of the benign use area, and any separate agreement entered into by the parties.

4

4. Parking. The DEIR states that UCLA's failure to provide on-campus parking for students reduces trip generation. Please explain how, if at all, you prevent students from bringing a car and parking it in areas surrounding campus, such as in the adjacent Westwood Hills and Holmby-Westwood neighborhoods, or in the public spaces in the Broxton Parking Lot or otherwise in the Westwood Village. Also, please explain what enforcement procedures you undertake to ensure that your preventive measures are effective.

5

5. Traffic Generation. What number of students do you anticipate moving on campus into the new housing who would be migrating from housing in the North Village or otherwise within walking or biking distance from campus, or who otherwise already take public transportation? The Crain report relies on old data—from the 2008 UCLA Northwest Housing Infill Project (data which is now nearly 10 years old), including a projection made at that time to 2013, for a significant part of its traffic analysis.

6

6. Alternatives. The parameters for alternatives are so narrowly defined as to render the alternatives presented in the DEIR nothing more than straw men. Please analyze the following alternatives:

a. allocating beds proportionately to the proposed gross square footage of each project site. For example, according to Table 3-1 at p. 3-9, out of the total 1,715,000 gross square feet ("gsf") of new development to provide 6,900 beds, 353,000 is slated for the Lot 15 site. This is

7

approximately 20% of the total proposed gsf. If the beds are allocated proportionately, the Lot 15 site would provide 1,420 beds (not 1,800)—this would permit the proposed buildings on that site to be significantly smaller, with less impact on neighboring Westwood Hills community and the benign use area under the Stipulated Agreement. Similar calculations should be done for each site and presented in form similar to Table 3-1.

b. building dorms on the site of the Los Angeles Tennis Center ("LATC") in lieu of on the Lot 15 site, and relocating those tennis courts to the Sunset Recreation Area. The LATC site is near existing student housing and student recreational services, convenient to the center of campus, with a flat lot that would be easy to build on.

c. repurposing the large amount of open space around the Chancellor's Residence for student housing.

7 cont.

7. Changed Circumstances and the Stipulated Agreement. The comments in this paragraph 7 are subject to the comments in paragraph 3 above. The Stipulated Agreement provides that its limitations "will remain in effect unless and until the Regents determine on the basis of substantial evidence that there has been such a substantial change of circumstances within the University as to warrant a modification of the use of that portion of the UCLA campus."

The matters offered as justification of changed circumstances (pp. 4.9-27 et seq.) do not constitute a legally sufficient change of circumstances as required under the terms of the Stipulated Agreement, because they are the result of unilateral discretionary decisions by the Regents and/or UC and ULCA administrators, essentially they are self-induced hardships. If decisions entirely within the control of one party were to be permitted to negate the terms of an agreement, the resulting "contract" is illusory, not real.

In this case, the principal decisions have to do with the Regents' disproportionate allocation of student enrollment to UCLA as compared to the other nine UC campuses, resulting in overcrowding and scarcity of housing at UCLA.

Attached is an analysis of the density of students per acre for each campus, based on data from the UC website. UCLA has 107 students/acre; the average over the ten campuses is 29 students/acre. The average over the other nine campuses excluding UCLA is only 20 students/acre. UCLA has also admitted approximately 9,000 out-of-state students (roughly 22% of the total enrollment), exacerbating the overpopulation problem at this campus.

As can be seen, UCLA, with the smallest physical campus, has not only the largest absolute number of students (44,947) of any of the ten UC campuses, but is nearly four times as dense as the average of all the UCs. (As a comparison, consider total student enrollment at major universities such as Harvard [about 22,000], Yale [about 12,000], Stanford [about 16,000], etc.)

8

In the EIR, please provide comparable UC campuses acreage and student enrollment for 1978, using the same parameters as are used at https://www.universityofcalifornia.edu/infocenter/fall-enrollment-headcounts and at https://confluence.ucop.edu/display/UC101/Campus+Profiles

8 cont.

Another set of unilateral discretionary decisions involve decisions to devote scarce real estate resources to non-housing, non-classroom/lab uses, such as the Luskin Conference Center, elite athletic facilities for basketball and football players, and a junior high and high school on campus property.

9

Thank you for your attention to these matters.

Very truly yours,

Terry A. Tegnazian
President

enc.

Comparison of UC Campuses
8/2/2017
Based on info from:
https://www.universityofcalifornia.edu/infocenter/fall-enrollment-headcounts
https://confluence.ucop.edu/display/UC101/Campus+Profiles

Campus	Year Established	Number of Acres	Number of Students (2016 enrollment)	Students per Acre (rounded)
Berkeley	1868	1,232	40,173	33
Davis	1905	5,300	37,397	7
Irvine	1965	1,530	33,467	22
UCLA	**1919**	**419**	**44,947**	**107**
Merced	2005	810	7,336	9
Riverside	1959	1,200	22,990	19
San Diego	1960	1,200	35,816	30
San Francisco	1873	185	4,857	26
Santa Barbara	1944	1,055	24,346	23
Santa Cruz	1965	2,000	18,783	9
			AVERAGE Students/Acre over 10 UC campuses (286/10)	**29**
			AVERAGE Students/Acre over 9 UC campuses (excl. UCLA) (179/9)	20
UCLA, at 107 Students/Acre, is nearly 4 times the average of all 10 UC campuses, and more than 5 times the average of the other 9 campuses				
Berkeley + San Francisco		1,417	45,030	59

8 cont.

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Response to Comment Letter 7
Terry A. Tegnazian, President
Westwood Hills Property Owners Association
October 9, 2017

1. This introductory comment does not question the content or conclusions of the Draft SEIR; no response is required. However, for clarification, as described in Section 3.5, Proposed Student Housing Project Characteristics, of the Draft SEIR, the proposed housing projects would involve approximately 1,715,00 gross square feet (gsf) of new development, not 1.5 million gsf as stated by the commenter. Development of the proposed student housing projects would require demolition of the existing buildings at the Lot 15, Warren Hall, and UNEX sites, totaling approximately 215,000 gsf, resulting in a potential net increase of 1,500,000 gsf of housing on campus.

2. Please refer to Topical Response 6, which addresses the proposed extension of the LA Metro Purple Line subway.

3. The description of the haul route for Lot 15 is accurately described on page 3-22 of the Draft SEIR; however, the description of the haul route for the Bradley site on page 3-24 inadvertently included reference to use of Veteran Avenue. The route description is hereby revised as follows:

> It is expected that the construction routes for this site would be I-405, Wilshire Boulevard, ~~Veteran Avenue,~~ Gayley Avenue, Strathmore Place, and Charles E. Young Drive West.

The referenced text on page 4.10-23 (last paragraph) is hereby revised as follows:

> With respect to construction vehicle noise impacts, as previously identified, the most frequent haul truck use would be the concurrent demolition at the Lot 15 and Warren Hall sites and grading at the UNEX site, which would occur during that period. There would be an estimated combined 81 round trips per day for an approximately two-month period. The common truck routes for ~~all three~~ the Warren Hall and UNEX sites would include I-405, Wilshire Boulevard, and Veteran Avenue; the truck route for the UNEX site would also include Gayley Avenue. The truck route for the Lot 15 site would also include I-405 and Wilshire Boulevard to Gayley Avenue. Grading and soil export from the Bradley site, with an estimated 63 round trips per day would occur for an approximate 3-month period in 2023. The truck route would include I-405, Wilshire Boulevard, ~~Veteran Avenue,~~ Gayley Avenue, Strathmore Place, and Charles E. Young Drive West. Along these truck routes, t~~T~~here are residences adjacent to Veteran Avenue and Gayley Avenue. Truck passbys at any receptor would average less than one truck every two minutes. Truck passbys would be audible at adjacent receptors, and the average traffic noise level would increase by approximately 1 to 3 dBA L_{eq} on Veteran Avenue and Gayley Avenue. The increase would be less than the 10 dBA threshold for a significant temporary noise impact.

No truck traffic would occur on Veteran Avenue north of Strathmore Place. Please refer to the exhibits provided in Topical Response 6, which graphically depict the proposed construction truck routes for each housing project.

4. The discussion of the Stipulated Agreement of Compromise and Order (Stipulated Agreement) between the Westwood Hills Property Owners Association (WHPOA) and The

Regents of the University of California (Regents) in the Draft SEIR is provided to identify the action to be taken by The Board of Regents relative to the Stipulated Agreement (refer to Section 3.9, Anticipated Discretionary Approvals, of the Draft SEIR), and to address the provisions of the agreement relevant to the analysis of environmental issues (refer to the discussion provided on pages 4.9-27 through 4.9-29 of the Draft SEIR). The Draft SEIR does not specifically identify the modifications to the Stipulated Agreement that would be made relative to development of the Lot 15 site, and does not address communications between the University and/or The Regents and the WHPOA that occurred during the required consultation process, including any modifications to the proposed project design or agreements made relative to the modifications. No revisions to the Draft SEIR are required; however, please refer to Topical Response 3, which discusses the status of the Stipulated Agreement, and Section 2.2 of this Final SEIR which discusses the current design for the Lot 15 site being considered by The Regents for design approval.

5. Please refer to Topical Response 5, which addresses student parking demand, UCLA's parking management program, and the provision parking at the proposed housing sites.

6. While the number of commuter students returning to live on campus as resident students as part of the proposed Project can be estimated, the exact number returning from the North Village or any other particular area close to campus is not known. Therefore, it has been reasonably assumed that returning commuter students will be drawn proportionally from all geographic areas where commuter students reside, including those areas close to campus. The unique trip generation rates for commuter students are based on the 2013 trip generation rates from the UCLA Northwest Housing Infill Project and LRDP Amendment Transportation Impact Analysis, which were developed empirically for this student group category based on campus-wide traffic counts and traffic counts at individual parking structures. The trip generation rates developed for commuter students did not discriminate based on off-campus housing location and, therefore, included commuter students living within walking/biking distance of campus, using public transportation as their primary mode, and commuting via passenger vehicle. This is reflected in the commuter student group daily trip rate of only 0.746 vehicle trips per person. Given that the geographic distribution of residences for commuter students has not changed substantially since the preparation of the UCLA Northwest Housing Infill Project and LRDP Amendment Transportation Impact Analysis, the use of these trip generation rates remains valid.

7. The commenter suggests various alternatives to the proposed Project including: allocating beds proportionately to the proposed gross square footage of each project site, building dorms on the site of the Los Angeles Tennis Center (LATC), and repurposing the large amount of open space around the Chancellor's Residence for student housing. Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives"

   Allocating beds to the proposed gross square footage does not take into consideration notable differences in the space allocation for various types of student housing (e.g., residence hall compared to apartment style units) or site opportunities and constraints that allow for different sizes and types of buildings. Additionally, this alternative would involve similar construction activities and operations at each of the proposed housing sites and would not avoid or substantially lessen the significant and unavoidable impacts identified

for the proposed Project, including cumulative impacts that the proposed housing project at the Lot 15 site would contribute to.

Similarly, building dorms at the LATC instead of the Lot 15 site would not avoid or substantially lessen the significant and unavoidable impacts identified for the proposed Project. Additionally, the LATC facilities would need to be accommodated elsewhere on campus. Even if there were an available site on campus to accommodate the LATC facilities, there would be additional impacts resulting from construction activities associated with development of tennis courts at an alternate site, resulting in potential greater impacts than with the proposed Project. Because this alternative would not avoid or eliminate any of the project impacts identified in the Draft SEIR, and impacts would potentially be greater, further analysis of this suggested alternative is not required.

The Chancellor's residence is a designated "Preserve" on campus. Building housing at this site would not avoid or substantially lessen the significant and unavoidable impacts identified for the proposed Project. Additionally, this alternative would conflict with campus programs, practices, and procedures (PP) 4.1-1(b) from the March 2009 LRDP Amendment Final EIR, which requires that the University Residence be maintained as an open space preserve (along with other designated Preserves on campus). Therefore, this alternative would conflict with a land use plan, policy or program. Because this alternative would not avoid or eliminate any of the project impacts identified in the Draft SEIR, and impacts would potentially be greater, further analysis of this suggested alternative is not required.

8. Please refer to Topical Response 3, which addresses the Stipulated Agreement between the WHPOA and The Regents. With respect to student population and density of the UCLA campus, a comparison of current conditions at the UC campus to other UC campuses, and other major universities is not relevant to the proposed Project or the analysis presented in the Draft SEIR. However, it is important to provide additional information in response to this comment, as the data provided is misleading. With respect to UC campuses, each campus has unique conditions and circumstances and is required to prepare a Long Range Development Plan to guide the physical growth at the campus. Simply generating statistics about students per acre solely based on the size of a campus is not accurate or appropriate. The total acres of a campus are not representative of developable space as some campus contain large areas with sensitive natural resources that are planned to be preserved (e.g., the Open Space Reserve at UC Riverside and the Campus Natural Reserve at UC Santa Cruz), or have large areas of land not currently allocated for development but that could be developed in the future subject to required environmental review (e.g., Campus Resource Land at UC Santa Cruz). Additionally, many of the campuses have remaining development allocation that, once implemented, will ultimately increase the overall population and densities of the respective campuses.

It should also be noted that specific to UCLA, the number of students at the UCLA campus reported in this comment represents the campus "headcount", which is not the same as the 3-quarter regular session average weekday on campus population. As show in Table 4.11-2 of the Draft SEIR, the 3-quarter regular session average weekday on campus population was 33,563 students in 2016 (compared to a headcount of 44,947). On-campus population figures are adjusted to reflect the fact that all students, faculty, and staff who may be on campus at some time will not be on campus simultaneously on any given day. This is because weekday attendance patterns for students and employees vary due to class and teaching schedules, vacations, sick leave, and absences from campus for travel, among other reasons, and other less than full-time work or study schedules. Due to these variations, the number of enrolled students and employed individuals on campus on any

given weekday is less than the total number of people enrolled and employed. The average weekday population adjusts the total on-campus population to represent the average number of people (students and employees) physically on campus on any given weekday.

Regardless, as noted above, a comparison of current conditions at the UC campus to other UC campuses, and other major universities is not relevant to the proposed Project or the analysis presented in the Draft SEIR. As required by the California Environmental Quality Act (CEQA), the Draft SEIR addresses the environmental impacts of the proposed Project based on the current environmental setting. The current environmental setting is described for each topical issue in Section 4 of the Draft SEIR and inherently takes into consideration the current population and building conditions at the UCLA campus.

9. Please refer to Topical Response 2, which address previous land use decisions at the UCLA campus.

WESTWOOD NEIGHBORHOOD COUNCIL
P.O. Box 24802 Los Angeles, CA 90024 WWNC.ORG

Comment Letter 8

September 24, 2017

VIA EMAIL t.dudman@capnet.ucla.edu
Tracey Dudman, Senior Planner
Campus and Environmental Planning, UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, CA 90095-1365

VIA EMAIL faisal.alserri@lacity.org
Office of Councilmember Paul Koretz
c/o Faisal Alserri
5th Council District
200 North Spring Street, Suite 440
Los Angeles, CA 90012

IN RE LRDP AMENDMENT (2017) and Student Housing Projects tiered Draft SEIR
Project Title: UNEX **Case Number:** SCH NO. 2017051024
Project Address: 10995 LeConte Avenue, Los Angeles, CA 90024
Contact Info: Tracy Dudman, Senior Planner; (213) 455-7679; t.dudman@capnet.ucla.edu
Project Description: Demolition of UNEX building and replacing with building holding up to 1,350 upper division undergraduate beds. Building estimated at 350,000 gsf configured with 9 and 20 levels and limited parking. Expected to be completed at latest Fall 2022.

Greetings:

On September 13, 2017, at the regular meeting of the Westwood Neighborhood Council (WWNC) Land Use and Planning Committee (LUPC), Marco Perez, Assistant Director, Community & Local Government Relations at UCLA provided some details as to this project. After discussion took place with stakeholders in attendance, the WWNC LUPC voted unanimously to recommend that the WWNC Board of Directors (WWNC BOD) pass the following motion:

The Westwood Neighborhood Council (WWNC BOD) opposes the proposed 20 story 202 ft. dormitory project at the UNEX site on LeConte for the following reasons:

- **its significant negative environmental impact on Westwood Village's historic view shed that includes the Fox Theater, a Los Angeles historic-cultural monument; and**
- **due to the adjoining 45 ft. height restrictions imposed by the Westwood Village Specific Plan and the North Westwood Village Specific Plan.**

However, the WWNC BOD does support and recommend that UCLA pursue a project thatreplaces the current UNEX building with one of the same height, 106 ft. with the installation of at least two levels of subterranean parking that would be accessible both to students and the public at affordable rates and transfer the remaining height and density needed to the proposed Gayley-Strathmore, Warren or Tom Bradley sites.

1

Further, we call on UCLA to circulate a new and updated holistic Long Range Development Plan in an orderly fashion that allows for community and stakeholder input.

2

That same evening at the regular WWNC BOD meeting with 13 of the 19 members present, **the motion as set forth above was passed** with 9 in favor and 4 abstaining. } 3

Very truly yours,
/s/Constance Boukidis
Constance Boukidis
Chair, Land Use and Planning Committee
Westwood Neighborhood Council
310-766-5030

Response to Comment Letter 8
Constance Boukidis, Chair, Land Use and Planning Committee
Westwood Neighborhood Council
September 24, 2017

1. This introductory comment documents the motion passed by the Westwood Neighborhood Council Land Use and Planning Committee regarding the proposed Project and does not question the content or conclusions of the Draft SEIR; no response is required. However, the commenter's opposition to the proposed 20-story building at the UNEX site, and support for a replacement of the existing UNEX building with a residential building of the similar height and subterranean parking is noted and will be forwarded for consideration to the decision makers. Please refer to Section 2.2 of this Final SEIR, which addresses the current design for the proposed structure at the UNEX site.

   Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives". With respect to an alternative that involves redevelopment of the site with a 9-story residential building and subterranean parking, this alternative would not avoid or substantially lessen the significant and unavoidable impacts identified for the proposed Project, including those involving the proposed housing project at the UNEX site. Rather, it is likely that the construction impacts with the suggested alternative would be increased due to excavation and export of soil for subterranean parking, and there would be traffic impacts associated with the provision of parking for students and the public at the site. As further discussed in Topical Response 5, by limiting the amount of parking at the proposed housing sites there is corresponding reduction in trip generation and vehicle miles traveled. Therefore, no further evaluation of this alternative is warranted or required.

2. Please refer to Topical Response 2, which addresses land use planning at the UCLA campus, including the UCLA Long Range Development Plan.

3. This comment documents that the same motion passed by the Westwood Neighborhood Council Land Use and Planning Committee regarding the proposed Project was passed by its Board of Directors and does not question the content or conclusions of the Draft SEIR; no response is required.

Comment Letter 9

From: Tima <talkingtima@gmail.com>
Sent: Saturday, October 7, 2017 9:45 AM
To: Dudman, Tracy
Subject: Response to EIR

Please confirm receipt of this email.

To the Regents of the University of California,

I have been a property owner in Westwood for over 35 years. Only due to a random search less than a month ago about area housing did I learn about the housing expansion plans of UCLA.

No apartment building owner was given notice of any kind by the university. This is shameful behavior. We had NO time to professionally analyze the content of the almost two thousand pages of the EIR. 1

Please fully explain this failure to be transparent about your plans.

The EIR noted that there were no alternative approaches available. This is a blatant mistruth. The campus has acres and acres to build housing on campus. UCLA has built an enormous Luskin Conference Center, new stadiums and many other projects. There is room to build your desired housing on campus. If student housing is such a "crisis" it should have been a priority over sports and conferencing. 2

Legally you are obliged to consider and investigate all options. You have not done so.

You are proposing a 20-story building of 1300 beds at the Extension site at the corner of Le Conte Avenue and Gayley Avenue is an abuse of a neighborhood. 3

Westwood is an historic district and a 20-story building will block views of the Santa Monica Mountains, of the Fox and Bruin theaters and it will make an already overburdened intersection become almost unrecognizable. The height district in the UCLA neighborhood is about 45 feet. Your proposed building will be well over 100 feet in height. If a 20-story dormitory is needed, place it on the campus. Let Westwood maintain some of its historic and cultural dignity and maintain the precedent of 45 foot height limits.

Having 1300 additional students crossing this major intersection is dangerous for them and other pedestrians and drivers. 4

With ambulances driving non stop 24 hours a day to the hospital that you chose to be entered via Gayley Avenue, emergent health care delivery will be impeded. There will surely be accidents with the increased foot traffic with the additional housing there.

If you pursue developing the Extension building, remodel the existing building for students and build additional housing elsewhere. UCLA is remodeling its building on Levering near the gas station using the existing structure, and not adding square footage and height. This should be the approach at the Extension building. 5

Stop acting like you own Westwood. Be a better community member. 6

I think the public needs to a precise and detailed explanation with maps to show why you can't build student housing on campus. There is much open space available. You owe an extensive explanation of why you want to burden the whole neighborhood with 6900 new beds and won't use your campus property. 7

Please also be advised that the persons responsible for communicating with the public have been unreceptive in allowing people to ask questions. 8

Fatemeh Farmy
2625 Mandeville Canyon Rd.
Los Angeles, CA 90049

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Response to Comment Letter 9
Fatemeh Farmy
October 7, 2017

1. As further discussed in Section 1.3, Public Review Process, of this Final SEIR, there have been a number of opportunities for the public to be informed about and provide input on the proposed Project. As required by Section 15082(a) of the State CEQA Guidelines, UCLA (as lead agency) sent the Notice of Preparation (NOP) for the Draft SEIR to the State Office of Planning and Research (OPR) and responsible agencies to solicit input on the scope and content of the Draft SEIR. The NOP for the Draft SEIR also included the notice of the scoping meeting. In addition to the CEQA-required NOP distribution to OPR and responsible agencies, UCLA sent the NOP (and scoping meeting notice) to other regional and local agencies, and fourteen organizations and individual community members that have previously requested such notice. The local organizations include, but are not limited to, homeowner and property owner associations and neighborhood and community councils. These organizations share information with their members, as deemed appropriate by each organization. Based on the commenters' interest, they will be included in the UCLA's distribution for future CEQA notices subject to public review.

   UCLA used several methods to solicit comments on the Draft SEIR. A Notice of Availability (NOA) along with a CD containing the Draft SEIR and technical appendices was also mailed to various public agencies, homeowners associations (HOAs), organizations, NOP commenters, and individual community members that previously requested such notice. The NOA was also posted in the Daily Bruin, and a copy of the Draft SEIR was available for review at the Charles E. Young Research Library. The Draft SEIR was also available on UCLA's website and at the UCLA Capital Programs Facility on the UCLA campus, and was submitted to the State Clearinghouse for distribution to and review by State agencies.

   Further, a public hearing was held on September 26, 2017 on the UCLA campus during which the public was given the opportunity to provide comments on the Draft SEIR; the public hearing notice was provided with the NOA. The public hearing was attended by approximately 65 individuals, including the commenter. Responses to comment received at the public hearing are provided in Section 2.4 of this Final SEIR.

2. This comment incorrectly asserts that the University failed to consider and investigate all "options" for the proposed Project. Assuming the commenter is referring to "alternatives" to the proposed Project, a detailed analysis of alternatives is presented in Section 5 of the Draft SEIR. The Draft SEIR identifies alternatives that have been "Considered and Rejected from Further Consideration" (refer to Section 5.3), and "Alternatives Under Consideration" (refer to Section 5.4). For clarification, each of the proposed housing projects is located on the UCLA campus. Please also refer to Topical Response 2, which address previous land use decisions at the UCLA campus.

3. The commenter's opinion about the proposed housing project is noted and will be forwarded for consideration to the decision makers. However, this comment does not question the content or conclusions of the Draft SEIR and no response is required.

4. Please refer to Topical Response 4, which addresses the issues raised in this comment related to proposed UNEX building, including visual changes, potential impacts to historic resources, compliance with City of Los Angeles land use regulations, pedestrian safety, and emergency access.

5. With respect to remodeling/reuse of the existing UNEX building for student housing, as discussed 5.3.2, Alternative On-Campus Site or Sites, the existing UNEX building is seismically deficient and in need of seismic retrofitting and substantial renovation before it could be reused for continued use by the University Extension Program. Seismic retrofitting and renovation would also be required to accommodate residential uses; however, the extent of renovation would be much more substantial to accommodate residential uses as opposed to existing office- and classroom-type uses. When taking into consideration the cost for the seismic retrofitting and renovation and the reduced number of beds that could be accommodated, reuse of the UNEX building for student housing is not a viable option. It should also be noted that the UCLA Margan Apartment building is being demolished and a new building developed at the site. The Margan Apartments Redevelopment Project was approved in December 2016. As described on page 4-6 of the Draft SEIR for the proposed Project, the existing Margan building will be demolished and a new 62,000 gsf apartment building is proposed. Construction of this project was initiated in June 2017 (abatement and remediation activities).

6. This comment reflects the commenter's opinion and does not question the content or conclusions of the Draft SEIR; no response is required.

7. For clarification, each of the proposed housing sites, including the UNEX site is on the UCLA campus, within the Bridge zone, as identified in numerous University documents, including, but not limited to, Figure 3-2, Campus Map, of the Draft SEIR; in the March 2009 LRDP Amendment Final EIR, Figure 4.8-3; and on Figure 6, Bridge Zone Built Environment, of the 2002 Long Range Development Plan.

8. This comment reflects the commenter's opinion and does not question the content or conclusions of the Draft SEIR; no response is required.

Comment Letter 10

8 October 2017

Tracy Dudman, Senior Planner
Campus and Environmental Planning
UCLA Capital Programs
via email: t.dudman@capnet. ucla.edu

RE: UCLA Long Range Development Plan Amendment (2017) and Student Housing Projects

Dear Ms. Dudman:

We are long-time residents of Westwood and love living in walking distance to UCLA, first on the east side of campus on Hilgard Avenue and now on the west side of campus in Westwood Hills. Our family enjoys strolling throughout campus for leisurely walks, museum visits, and to climb the Janss steps. When we lived on Hilgard, we loved the openness of the east side of campus. When we moved to Westwood Hills nine years ago, we were dismayed by how closed off the west side of campus is on Veteran Avenue. Nowadays when we walk along Veteran, our young children often peer through the fences, and we wonder why the open green space and tennis courts that we can see beyond the chain link are inaccessible.

When we learned about the plans to develop the Lot 15 site for undergraduate housing, we became hopeful that the west side of campus would be opened. Unfortunately, not all of our neighbors share the same views and have objected to the plans. These pessimistic voices are vocal and broadcast through the Westwood Hills Property Owners Association (WHPOA) board. We understand the Board has substantial concerns about the Lot 15 development and its potential impact on our neighborhood. We are also aware that UCLA must abide by a 1978 Stipulated Agreement with WHPOA. In consideration

1

of this agreement and the proposed housing plans, we believe that in exchange for support of the project, UCLA must provide a community benefit for the Westwood Hills neighborhood. We therefore request two items be included in the overall Lot 15 plans:

1) A children's playground and community garden at Sycamore Park (at the proposed site)

2) Pedestrian access to the campus via Veteran Avenue at the proposed site

With respect to the children's playground and community garden request – our neighborhood lacks open green space, especially space to where children and their caretakers can easily walk and play. There are also faculty members who live on the Hill with their families as part of the faculty-in-residence (FIR) program. Safe places to play are integral to young children's growth and development, and we believe a playground would be immensely beneficial for both the Westwood Hills and FIR communities. Additionally, UCLA is beginning to recognize the vital importance of community gardens, and we believe there would be tremendous campus support for a second community garden at Sycamore Park. Two locations that serve as particularly important models for this request include a) The Westwood Gardens Park on Glendon Avenue next to the Westwood Public Library and b) the jane b semel HCI Community Garden at Sunset Rec.

With respect to pedestrian access to campus via Veteran Avenue - we understand some neighbors are hesitant for any development to occur on Lot 15, and we appreciate their concerns. While the WHPOA board has chosen to feature the opposition voices, we feel these are a minority of voices that hearken back to a time when UCLA was a commuter school and not the residential university it is today. Rather than reflecting a contemporary view that the university and its students are all members of our Westwood community, their views reflect a bygone era. A new generation of families who live in Westwood Hills chooses to live here because of its proximity to UCLA and views the university as a neighbor and not a foe. Where once there was a contingent of support for boarding up Veteran Avenue – perhaps in the era of the 1978 agreement – forty years later, there is a rising body of voices whose perspective is that walls only serve to divide. Given that our neighbors' concerns about vehicle traffic and safety are vociferous, we therefore simply request a compromise that there be pedestrian access via Veteran Avenue. The newly completed pedestrian and bike-friendly courtyard at Geffen Hall serves as a model for this request.

In context of the 1978 Stipulated Agreement with WHPOA, if UCLA will proceed with housing development on Lot 15, then there should be a reciprocal benefit to Westwood Hills. We believe pedestrian access and family-friendly enhancements to the existing Sycamore Park are highly favorable gains for our neighborhood. They are also "benign uses" that fall within the scope of the agreement. While there may have been a time and purpose for cloistering the west side of campus in the past, now is the time and opportunity to develop a shared community with the Westwood Hills neighbors to the west. So we say, "Chancellor Block – tear down that wall!" (Or at least unlock one of those gates.)

1 cont.

Thank you for your time and consideration.

Sincerely,

Amy Liu and Family
Homeowners
Westwood Hills

Response to Comment Letter 10
Amy Liu
October 8, 2017

1. This comment suggests that UCLA should provide community benefits in exchange for support of the proposed housing project at the Lot 15 site, but does not question the content or conclusions of the Draft SEIR. Specifically, the commenter requests that UCLA consider the provision of a children's playground at Sycamore Park, and pedestrian access to the campus via Veteran Avenue near the Lot 15 site. It is important to note that the proposed Project, including the proposed housing at the Lot 15 site, would not result in any impacts that would require the provision of a children's playground, community garden, or pedestrian access via Veteran Avenue. Notably, existing operations at Sycamore Park and other recreational facilities available to members of the community would continue, and access would be maintained consistent with existing conditions.

   With respect to the Stipulated Agreement of Compromise and Order (Stipulated Agreement) between the Westwood Hills Property Owners Association (WHPOA) and The Regents of the University of California (Regents), negotiations related to modification of the Stipulated Agreement are occurring through formal coordination between UCLA, The Regents and currently authorized representatives from the WHPOA. Please refer to Topical Response 3, which further addresses the Stipulated Agreement.

Comment Letter 11

From: spelledlikethecolor@gmail.com <spelledlikethecolor@gmail.com> on behalf of Adam Green <adamgreen05@gmail.com>
Sent: Wednesday, September 27, 2017 9:34:23 PM
To: Dudman, Tracy
Subject: Planned UCLA housing expansion

Hello,

I understand I can email you with questions or comments about the proposed UCLA housing expansion. I read in the Daily Bruin about the public meeting and some of the negative comments made by Westwood homeowners.

I own a house in Westwood between Wilshire and Santa Monica. I would strongly support the construction of additional student housing on and near UCLA's campus. I am in favor of denser urban developments as a way to avoid the environmental impact of commuting. I am in favor of bringing additional customers to the businesses in Westwood Village. I am in favor of expanding opportunities for lower-income students to find affordable housing with easy access to their university. If these projects change the character of the neighborhood, then as far as I can tell, those changes are going to be for the better. (And these arguments that we won't see the hills anymore are ridiculous.) 1

I'd be happy to provide any additional feedback you seek from community members.

Thanks,
Adam Green

Response to Comment Letter 11
Adam Green
September 27, 2017

1. The commenter's support for the proposed Project is noted and will be forwarded for consideration to the decision makers.

Comment Letter 12

Tracy Dudman, Senior Planner
Campus and Environmental Planning
UCLA Capital Programs
1060 Veteran Ave
Los Angeles, CA 90095-1365

RE: **Draft Subsequent Environmental Impact Report on Proposed UCLA Long Range Development Plan Amendment (2017) and Student Housing Projects**

Dear Ms. Dudman:

As a 56-year resident of the UCLA neighborhood and former member of the Westwood Community Design Review Board, I feel qualified to comment on a few aspects of the Draft SEIR that in my opinion need restudy, revision or amplification.

To start, I note that the Draft SEIR is 2000 pages long and covers a complex LRDP amendment, tiered from previous plan amendments that are themselves tiered from previous plans, and also deals at a project level with five geographically separate housing proposals, any one of which could have been the subject of a separate SEIR. This is a very daunting document, not made less so, by the fact that for most of us, it has been available only in digital format. Notwithstanding this complexity, the public has been afforded only the standard review and comment period required by CEQA.

So as not to duplicate the weight and bulk of the subject document, my comments will deal with only selected areas: cumulative traffic impacts; analysis in areas of aesthetics; early UCLA long-range planning; and conclusions relating to the Stipulated Agreement between the Regents and the Westwood Hills Property Owners Association.

1

Table 1-1

Table 1-1 gives hints of deficiencies to come. For example, conclusions regarding land-use and planning set forth in Table 1-1, seem to overlook the need to amend a long-standing agreement with the community. Notwithstanding that omission in the Threshold table, the report notes that the need to modify the agreement creates an unavoidable significant impact from the project so that the Regents must adopt a statement of overriding conditions in order to approve it. (1-8)

2

In 1-11, UCLA finds that the UNEX project would not substantially degrade the existing visual character of the sites and their surroundings, an assertion with which substantial numbers of Westwood residents disagree.

3

2

The proposed UNEX development, in particular, is not compatible with height and massing of adjacent structures as required by UCLA's PP 4.8-1(d) cited in the SEIR as a mitigation. In addition it violates the principles of compatibility and coherent planning that underlie City Zoning for the parcel it will occupy.

This SEIR is deficient in failing to assess the aesthetic impact of this building on a nearby cultural historical building, the landmark Fox Tower, choosing instead to compare it to buildings on Wilshire and Hilgard that are relatively distant and were built before the enactment of the current zoning and in some cases were themselves the reason for the new zoning.

3 cont.

In addition this document fails to acknowledge opposition to a proposed 20-story building at the UNEX site exists as an area of community controversy. Neighbors of this project, both commercial and residential, who have an economic and social interest in their property, rely on the predictability provided by existing urban plans. While UCLA is not bound to respect these plans by law, not to do so constitutes an adverse impact on the community. Does this DEIR acknowledge this impact or provide mitigations for it?

4

Cumulative Traffic Impacts:

UCLA acknowledges a need to consider other construction in the area to avoid traffic congestion but doesn't appear to provide analysis of major areas of potential conflict that could occur. Does this cumulative analysis consider impacts that might arise from closure of all or part of Wilshire Blvd between Westwood and Veteran during evening and daytime hours to accommodate Metro construction beginning in 2018 and continuing through 2024? These closures will result from acceleration of the Purple Line extension to Westwood made possible by passage of Measure M last November. How will the campus deal with these conflicts? Has the campus established a formal liaison with Metro to ensure effective coordination. What will be the impact on emergency services and movement within the community? Will nearby residential areas experience an increase in congestion on neighborhood streets?

5

Land Use, Planning and the Stipulated Agreement

The SEIR uses the existing system of LRDP zones to explain land use decisions, but doesn't acknowledge that the existing planning zones, established in 1990, function as only as planning conveniences subject to revision when circumstances warrant and have no meaning or authority in any other context, including the off-campus realm. For example, the UNEX site is surrounded by public roadways and properties that are subject to city zoning. No campus "Bridge Zone" exists except to indicate to campus planners that an opportunity exists to map a link on paper to other UCLA-owned property on Weyburn by hopping from one such parcel to another. The

6

designation of these zones does not impose any obligation on either the public or the campus.

6 cont.

Similarly, the designation of Northwest Campus as the "residential zone" is as arbitrary as it is aspirational. The SEIR explains repeatedly that the l990 LRDP created eight campus zones, including the Northwest Campus, which it designated as a residential zone. This SEIR changes the designation somewhat by declaring that the Northwest Campus zone is the principal location for undergraduate housing and for this reason, alternatives to the Lot 15 project, are not acceptable. Similarly, the Regents are told that because Lot 15 is on the Northwest Campus, and the Northwest Campus is the undergraduate housing zone, they must modify the Stipulated Agreement to permit construction of housing in an area where housing is not a permitted use.

Is it fair to assume that The Regents did not intend land in this Stipulated Agreement area to be used for housing, since housing is excluded from a list of allowable uses. In fact, since 1978, no residential uses have been developed there and recreational uses are extremely limited, consisting of six unlighted tennis courts and a practice area for the golf team. In fact, this Stipulated Agreement area uses are entirely separate and distinct from those specified for the Northwest Campus zone. The 2017 LRDP amendment should recognize this reality by removing the Stipulated Agreement zone from the Northwest Campus zone and renaming it the Low Impact Zone or the Stipulated Agreement Zone. In any case, the fact that Lot 15 is physically located in a zone mapped in the LRDP as "residential" cannot be used to support an argument that the Lot 15 site is planned as undergraduate residential use according to the 1990 LRDP or its successors.

7

Changed Circumstances

The rationalization of "changed circumstances" is particularly painful, since it depends almost entirely in an overly detailed history of campus construction and enrollment. If anything, it provides an accounting of a series of unilateral decisions by UCLA that have resulted in overcrowding and housing shortages documented through a series of LRDPs and amendments beginning in 1983. Also less than persuasive, is the SEIR contention that rising rents in Los Angeles and in particular the North Village area represent a change from prior circumstances. See, for reference, the October 5, 2017, issue of The Daily Bruin, which includes an account dated 1980, of UCLA support of a City Ordinance to make North Village housing more affordable for students. From the outset of the Stipulated Agreement in 1978, increasing enrollment demand and shortage of affordable housing have been predictable and ongoing conditions.

8

The Stipulated Agreement requires that The Regents consider circumstances in the surrounding community as part of its analysis of changed circumstance required for a modification of the Agreement. However, conspicuously missing from the discussion of changed circumstances is any analysis of circumstances in the

surrounding residential and commercial community, where well-considered community planning has kept growth to a level appropriate to the existing infrastructure and land uses. The SEIR describes UCLA as being surrounded by residential uses, except for Westwood Village, and then goes to great length detailing rising rents in the North Village, while dismissing the other adjacent areas as having experienced very little change. While housing supply has increased in the North Village, rents have also increased, creating, not a changed circumstance but repeating a familiar predictable pattern. To the West and North are single-family homes where circumstances have not changed regarding land use, leaving them in essentially the same relationship to UCLA land uses as existed in 1978.

The SEIR ignores the reality that the lack of change in the surrounding community, including the one that is party to the Stipulated Agreement, argues against the proposed modification of the agreement. Because there has been no change in the surrounding community, the same circumstances that warranted they Stipulated Agreement in the first place continue to prevail. Potential impacts arising from proximity of student housing to single-family residences continue unchanged from 1978 to 2017! Nor do circumstances on campus appear to be greatly changed, UCLA continues to enroll more students than the campus or the community can house. The Stipulated Agreement was intended to identify campus uses that are compatible with neighboring community uses. It has done that for forty years, to the benefit of both the campus and the community. No persuasive argument has been advanced that the circumstances that underlay the agreement have changed since 1978.

8 cont.

One notes in passing that the impacts of undergraduate student housing on neighboring residences are experienced also by graduate students. UCLA has cited graduate student objections as a reason for rejected alternative siting for the housing proposals.

9

Sincerely yours,

Carole Magnuson

11147 Ophir Drive
Los Angeles, CA 90024

October 9, 2017

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Response to Comment Letter 12
Carole Magnuson
October 9, 2017

1. This introductory comment addresses the complexity and availability of the Draft SEIR and summarizes the topics addressed in the detailed comments provided in the comment letter. With respect to the format for distribution of the Draft SEIR, while the document was transmitted in a CD format, it is identified in the Notice of Availability (NOA) transmitting the Draft SEIR, and in Section 2.4 of the Draft SEIR, where hard copies were available for review. Additionally, UCLA did not receive a request for a hard copy of the Draft SEIR from this commenter.

   The public review period extended 47 days (slightly exceeding the required 45-day public review period), and was established in accordance with the requirements of the California Environmental Quality Act (CEQA). UCLA did not receive a request from the commenter to extend the public review period for the Draft SEIR prior to or during the review period.

2. Table 1-1 of the Draft SEIR provides a summary of the impact conclusions for each of the 14 topical issues addressed in Section 4 of the Draft SEIR. Potential land use and planning impacts are thoroughly addressed in Section 4.9 of the Draft SEIR. It is assumed the commenter's reference to the "long standing agreement with the community" is referring to the Stipulated Agreement of Compromise and Order (Stipulated Agreement) between the Westwood Hills Property Owners Association (WHPOA) and The Regents of the University of California (Regents). The Stipulated Agreement is discussed in detail in Section 4.9, Land Use and Planning of the Draft SEIR (refer to page 4.9-10, 4.9-11, and pages 4.9-27 through 4.9-29). As identified the proposed housing project at the Lot 15 site would not conflict with the provisions of the Stipulated Agreement and the land use impacts was determined to be less than significant.

   The commenter incorrectly identifies that page 1-8 of the Draft SEIR concludes "the need to modify the agreement creates an unavoidable impact significant impact from the project so that the Regents must adopt a statement of overriding considerations in order to approve it". As identified in paragraph 4 on page 1-8 of the Draft SEIR, land use and planning impacts fall under the listing of topical issues for which the proposed Project would have no impacts or less than significant impacts. Significant and unavoidable impacts are detailed on page 1-9 of the Draft SEIR and are related to air quality, historic resources, construction-related noise and construction-related traffic.

3. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including potential aesthetic/visual impacts, potential impacts to a historic resource (Fox Theater), and compliance with UCLA policies and City zoning requirements.

4. As required by Section 15123(b)(2) of the State CEQA Guidelines, Section 1.4 of the Draft SEIR identifies areas of controversy known to the lead agency. Based on input received during the scoping process and in comment letters responding to the Notice of Preparation (NOP) for the Draft SEIR, a controversy associated with the proposed housing development at the UNEX site was not known to the University. Please refer to Topical Response 4, which addresses compliance with City zoning requirements.

5. Please refer to Topical Response 6, which addresses the proposed extension of the LA Metro Purple Line subway.

6. A long-range development plan (LRDP) is a comprehensive plan that guides physical development such as the location of buildings, open space, circulation, and other land uses. As identified in existing LRDP for the UCLA campus (2002 LRDP, as amended in March 2009), while the campus functions as an integrated whole, patterns of use and adjacency have defined areas characterized by dominant uses and differing densities roughly contained within the eight campus planning zones. While the LRDP does not restrict the type of development in any given zone, the function of each zone as well as existing on and off campus land uses are taken into consideration when siting new facilities on campus. It is important to note that development on campus is guided by UCLA's institutional academic, physical and operational objectives outlined in the LRDP, and the UCLA Physical Design Framework. The project's consistency with the LRDP objectives and the Physical Design Framework are comprehensive addressed in Section 4.9, Land Use and Planning, of the Draft SEIR. As identified, the proposed Project is consistent with these planning documents.

7. For clarification, the Existing LRDP and Draft SEIR do not assume that undergraduate uses are the only uses in the Northwest zone. Rather, it is clearly identified that the Northwest zone is the primary undergraduate residential area of the campus, but that other uses are also provided in this zone (refer to pages 4.9-3 and 4.9-4 of the Draft SEIR). Specifically, in addition to residential uses the Northwest zone includes various housing support uses (e.g., administration, dining, fitness/recreation, study area, etc.) and uses that support the greater academic community (Southern Regional Library and the Krieger Child Care Center). The Bradley International Hall is located adjacent to and north of the Bradley site, and houses, among other uses, the Dashew Center for International Students and the Office of Residential Life. The Northwest zone also includes campus-wide recreational and athletic facilities (designated as recreational open space in the Existing LRDP), such as Sycamore Park, the Sunset Canyon Recreation Center, Sunset Canyon Tennis Courts, and Easton Stadium.

   The Draft SEIR accurately indicates that under current conditions the Northwest zone is the only location on campus that includes lower-level undergraduate housing. Existing housing in the Southwest zone is limited to graduate student housing and upper-level undergraduate housing. However, the Draft SEIR does not indicate that proposed modification to the Stipulated Agreement of Compromise and Order (Stipulated Agreement) between the Westwood Hills Property Owners Association (WHPOA) and The Regents of the University of California (Regents) is because the Northwest zone is the "undergraduate housing zone". Rather, the Draft SEIR acknowledges that there is a lack of remaining development options in the Northwest zone and other campus zones (refer to page 4.9-29). Due to the lack of developable area in the Northwest zone, the proposed Project also includes undergraduate housing in other campus zones, including the Southwest zone (Warren Hall site), Central zone (Drake Stadium site), and Bridge zone (UNEX site).

   Please refer to Topical Response 3, which further addresses the Stipulated Use Agreement between the WHPOA and The Regents.

8. This comment addresses the provision of the Stipulated Agreement between the WHPOA and The Regents that requires the use restriction to remain in effect ". . . unless and until there has been a substantial change of circumstances within the University as to warrant a modification of the use of that portion of the UCLA campus". While attributed to the Draft SEIR, the comments provided are not addressing information in the Draft SEIR. Notably, the Draft SEIR discussion of "changed circumstances" focuses on physical conditions on

campus; there is no discussion of rising rents. Please refer to Topical Response 3, which further addresses the Stipulated Use Agreement between the WHPOA and The Regents.

9. As identified in Section 5, Alternatives, of the Draft SEIR, no alternatives have been rejected due to proximity of undergraduate housing to graduate student housing. To the contrary, the proposed housing project at the Warren Hall site accommodates both undergraduate and graduate student beds, and would be adjacent to the existing Weyburn Graduate Student Housing. The existing and proposed graduate student housing is also in proximity to undergraduate student housing provided at the Margan Apartments (currently being redeveloped).

Comment Letter 13

From: alvin milder <alvinm134@yahoo.com>

Sent: Monday, October 9, 2017 3:19 PM

To: Dudman, Tracy

Subject: DEIR/SEIR for UCLA's 2017 New Dorms projects [the "DEIR"]

Here we go again.

What, if any, are the core values of UC, UCLA. and the other UC campuses?

Added to UC's audit issues (regarding, among other things, the excessive pay of UC's Chancellors, vice-chancellors, and other officers), its pension problems, UCLA's pharmacy issues, etc., we now have UCLA's attempt to manipulate the CEQA process to enable UCLA to obtain the vast sums to be derived by enrolling thousands of non-residents -- at approximately $61,000 per student per year! (Of course, these millions from non-residents and the millions from tuition increases from resident students help pay for the excessive salaries referred to in the Auditor's report - one officer makes over $1.000,000 per year. 1

The inadequacies of UCLA's DEIR for the 2017 Dorms project are appalling and inexcusable. The UC CEQA Handbook's Guidelines [the"Handbook"] requires that environmental documents to be written in plain language so that decision-makers and the public can rapidly understand the document. 2

The following from National Resources Defense Council, Inc. v. City of Los Angeles, 103 Cal. App. 268,271 (2002) [the "NRDC case"] is right on point and shows why UCLA has violated its obligations. As stated by the Court:

"This case goes to the first principles of CEQA. The CEQA process is intended to be a careful examination, fully open to the public, of the environmental consequences of a given project, covering the entire project, from start to finish. This examination is intended to provide the fullest information reasonably available upon which the decision makers and the public they serve can rely in determining whether or not to start the project at all, not merely to decide whether to finish it. The EIR is intended to furnish both the road map and the environmental price tag for a project, so that the decision maker and the public both know, before the journey begins, just where the journey will lead, and how much they-and the environment-will have to give up in order to take that journey. As our Supreme Court said in Bozung v. Local Agency Formation Com. (1975) 13 Cal.3d 263, 283 [118 Cal.Rptr. 249, 529 P.2d 1017], '[t]he purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind.'

"Here, the Port and the City have reduced CEQA to a process whose result will be largely to generate paper, to produce an EIR that describes a journey whose destination is already predetermined and contractually committed to before the public has any chance to see either the road map or the full price tag. [The City and Port] have segmented the project into three phases and are in the process of preparing an EIR for Phases II and III separately from Phase I, while engaged in building Phase I during the course of litigation. However, prior to the EIR for Phases II and III being complete, before a draft is even finished or available to the public, the City and the Port have committed themselves to all Phases of the . . . project, by approving the lease and the terms of the lease that call for construction of the entire project. They have signed this legally binding lease for the entire project before completing the CEQA process for two of its three Phases. Under the statute's plain language, the Guidelines adopted by the Resources Agency and binding on the City and the Port, and a long line of cases covering decades of CEQA enforcement, this is segmentation of the project and a per se violation of the statute."

As in the NRDC case, UCLA has generated lots of paper (almost 2000 pages for the DEIR), but has failed to have the environment in mind while making its decisions. In fact UCLA advertised for and received bids for its 20-story UNEX dorm on August 16, 2017, and on September 19. 2017, UC issued over $850 3

million worth of new bonds for various construction projects. [The public should be told what projects these bonds are for.] The UNEX building bids were solicited long before completing the DEIR or the additional CEQA process for the New Dorms. (UCLA has not only not obtained approval from the Regents, it has not yet completed the CEQA process.)

Furthermore, as in the NRDC case, UCLA is segmenting this project in violation of CEQA. E.g., the Report From the [UCLA] Committee on the Undergraduate Student Facilities Resources Plan [the "Plan"] submitted to the Campus Space Committee on June 22, 2016, not only deals with the housing (the New Dorms projects) required by the growth of student enrollment, but also the need for new classroom facilities , additional study spaces and new recreational facilities. The charge letter to the Committee acknowledges that "[a]mong many other challenges, enrollment growth will strain the capacity of our classrooms and teaching laboratories, residence halls, study spaces, and recreational facilities." As noted above, the "CEQA process is intended to be a careful examination, fully open to the public, of the environmental consequences of a given project, covering the entire project, from start to finish. This examination is intended to provide the fullest information reasonably available upon which the decision makers and the public they serve can rely in determining whether or not to start the project at all, not merely to decide whether to finish it. The EIR is intended to furnish both the road map and the environmental price tag for a project, so that the decision maker and the public both know, before the journey begins, just where the journey will lead, and how much they-and the environment-will have to give up in order to take that journey. " 3 cont.

UCLA cannot segment the Plan. A new LRDP is required for the whole Plan and also for the other campus projects UCLA is working on, or contemplating; e.g., the Lot 32/36 plans.

There are additional reasons a new LRDP for the campus must be prepared:

1. The UC Master Plan requires a new LRDP every 10-15 years. Not one prepared in 1990 and amended in 2002, amended again in 2009 and then amended again in 2017 -- a span of 27 years.

2. The California Education Code requires more frequent LRDPs especially when increases in enrollment are involved. 4

3. The California environmental law does not allow a lead agency to split a single large project into smaller pieces in order to avoid environmental review of the entire project. E.g., the DEIR for this Student Housing Project is precisely the piecemeal approach the law forbids. These housing facilities are a component of the Undergraduate Student Facilities Resource Plan (along with classroom facilities, study spaces, and recreation facilities). And an EIR/ LRDP is required for the entire Plan to allow for a full analysis of the Plan; and 5

4. UCLA's Capital Programs department has tiered the 2017 Dorms projects from prior LRDPs. However, one of the main requirements for tiering is that there is no new significant information or change of circumstances; but in the present case, by UCLA's own admission, there are changed circumstances -- and, therefore, as set forth in the CEQA Guidelines and the Handbook, this DEIR cannot be tiered. [It is obvious that UCLA is so eager for the big bucks from the non-residents' tuition and other fees that it is ignoring its ethical obligations and is attempting to game the system.] 6

CEQA provides that:

"(a) The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern. 7

"(b) It is necessary to provide a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man.

. . .

"(e) Every citizen has a responsibility to contribute to the preservation and enhancement of the environment. "

The Regents and the officers of UC not only have a "responsibility," but they also have a legal and a moral obligation , and as officers of a public trust a fiduciary duty to preserve the environment. They should be setting highest ethical values for the UC students and the community. 7 cont.

UCLA's conduct and the DEIR have raised many question, e.g.:

- What is the status of the bids it received for the UNEX building?

-Which UCLA officer approved of the obtaining these bids? 8

-Has UCLA obtained bids for any other of the DEIR dorms?

- How will this 20-story building be compatible with the other buildings in Westwood village?

-How does UCLA determine "compatibility" as require by the Handbook? 9

- Is "compatibility" a requirement of good urban design?

-What is the earthquake magnitude that the UNEX building will be designed to handle? 10

-What earthquake magnitude will the other New Dorms be designed to handle?

-Why does the DEIR state that there are no seismic issues on the campus when it submitted volumes to FEMA claiming otherwise following the Northridge earthquake?

-How much money, including the billion for the Regan Hospital, did UCLA receive for the damage it suffered from the Northridge quake? 11

-Will UCLA provide any early warning for earthquakes?

-If so. how much warning time will the students receive?

-Will the warning signal be audible to UCLA's neighbors on Veteran Ave. ? 12

- In the North Village?

-What are the heights of the buildings in the immediate area of the UNEX site? 13

-What was the amount of the bids for this building? 14

-What UCLA projects were included in the September 19, 2017 bonds?

-What are the dollar amounts for the UCLA projects in the bond issue? 15

-What is the cost of each of the New Dorms? 16

-Why weren't the new classrooms included in the DEIR?

-The new recreational projects?

-The new study spaces? 17

- What project are being discussed for Lots 32 and 36

-What CEQA documents were prepared for the increases in enrollment since 1978?
-What documents are available to the public? } 18

-What is the density of the campus at present?
-What will the density be after the DEIR projects are completed? } 19

-Is UCLA postponing the start of the Drake stadium site dorms?
-If so, why?
-When will construction start? } 20

-How many non-resident students are currently (fall 2017) enrolled at UCLA?
-Why isn't the alternative of phasing out the enrollment of non-resident students included in the DEIR?
-How many dorm beds are allocated to non-resident students? } 21

Alvin Milder

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Response to Comment Letter 13
Alvin Milder
October 9, 2017

1. This comment addresses economic issues associated with UCLA operations but does not question the content or conclusions of the Draft SEIR; no response is required.

2. This comment does not provide specific information regarding what aspects of the Draft SEIR are inadequate, or do not follow the guidance provided in the "UC CEQA Handbook's Guidelines" so no response can be provided. Responses to specific comments provided by the commenter are provided below.

3. This comment asserts that the Draft SEIR is not adequate because the Project has been segmented. With respect to the reference to bonds issued by the University of California (UC), for clarification, UC issued Limited Project Revenue Bonds (LPRBs) in the amount of approximately $860.4 million on September 19, 2017. These bonds were for 10 projects across the UC system. However, the LPRBs included only one project at the UCLA campus, approximately $4 million for parking. There were no bonds issued for the proposed housing project at the UNEX site, or any other proposed housing projects included in the proposed Project studied in the SEIR. Please also refer to Response to Comment 8 below, which addresses the status of "bids" for the proposed housing project at the UNEX site.

   With respect to "segmenting" or "piecemealing", the potential impacts of the proposed Long Range Development Plan (LRDP) Amendment (2017) and Student Housing Projects are thoroughly evaluated in the Draft SEIR. As required by Section 15126.2(a) of the State CEQA Guidelines, direct, indirect, short-term (construction-related), and long-term (operational) impacts are addressed for each of the proposed five on campus student housing projects. The five proposed housing projects are located at various locations on campus and would be constructed over an extended time frame (between 2018 and 2025). There would be various periods of time when construction activities would overlap (refer to Section 3.5.6, Construction Activities, of the Draft SEIR). The Draft SEIR comprehensively addresses potential impacts of overlapping construction activities and the combined impacts associated with operation of all five proposed housing projects. The housing projects are not related to, or otherwise dependent on, any other projects planned on campus, or that might occur in the future. UCLA is not currently pursuing development of new classrooms/teaching laboratories, residence halls, recreational projects or new study spaces beyond that already approved or under construction, or being considered as part of the proposed Project. It should also be noted that with the exception of the construction of new beds, the *Report from the Committee on the Undergraduate Student Facilities Resources Plan*[27] submitted to the Campus Space Committee, as referenced by the commenter, primarily focuses on the use of existing facilities more efficiently through programming (e.g., operating hours), enhanced services, funding, or modifications to or repurposing of existing buildings/uses. This Report was an internal study to inform campus space planning, with an emphasis on housing and dining facilities, classroom facilities, study spaces, and recreational facilities, but does not commit to any specific solution or project. Any future development project proposed by UCLA would be subject to environmental review pursuant to CEQA.

   Therefore, the proposed Project is not "segmented" and the Draft SEIR has been prepared with a sufficient degree of analysis to provide decision makers with information that

[27] Report from the Committee on the Undergraduate Student Facilities Resources Plan, June 22, 2016. https://ucla.app.box.com/s/vfg7tz3qcu9y7otqc6anz2hdwttf8kz1

enables them to make a decision which intelligently takes account of environmental consequences for the entire proposed Project. It should also be noted that potential cumulative impacts resulting from the proposed Project and previously approved projects on campus are addressed in the Draft SEIR.

4. Please refer to Topical Response 2, which addresses land use planning at the UCLA campus, including the LRDP. Please also refer to Response to Comment 17, below, which explains that there are currently no plans for a project(s) at surface parking Lot 36, and that "Lot 32" was redeveloped as a parking structure in 1986 and UCLA has no plans for redevelopment of this site.

5. Please refer to Response to Comment 3 above, which addresses the commenter's assertion that the proposed Project is being piecemealed.

6. Following review of the proposed Project and the analysis presented in the March 2009 LRDP Amendment Final EIR, the University determined that the proposed Project, which would add up to approximately 1.5 million gross square feet (gsf) of new development on campus not contemplated in the March 2009 LRDP Amendment Final EIR, is a "project" under CEQA for which the potential significant environmental effects were not fully addressed in the LRDP Final EIR. Therefore, additional environmental review was required. For clarification, as discussed in Section 2.2, Type of Environmental Impact Report, the environmental document prepared for the proposed Project is a Subsequent Environmental Impact Report (SEIR), which is required if one of the following occurs:

    1. Substantial changes are proposed in the project requiring major revisions to the previous EIR because of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
    2. Substantial changes have occurred with respect to the circumstances under which the project is undertaken, which will require major revisions to the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
    3. New information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was certified as complete shows any of the following: (a) the project will have one or more significant effects not discussed in the previous EIR; (b) significant effects previously examined will be substantially more severe than shown in the previous EIR; (c) mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or (d) mitigation measures or alternatives which are considerably different from those analyzed in the Final EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

    The proposed Project would involve removal of a historic resource (the existing Warren Hall building), resulting in a new significant and unavoidable impact not previously addressed. The Draft SEIR provides a comprehensive analysis of the potential impacts resulting from the proposed Project for this and other topical issues, and does not rely on the impact conclusions in the March 2009 LRDP Amendment Final EIR. However, it is acknowledged that with the exception of impacts to historic resources the significant and unavoidable impacts resulting from the proposed Project are similar to those identified in the March 2009 LRDP Amendment Final EIR.

The circumstances identified above, and referenced by the commenter, are the basis for determining whether or not a Subsequent EIR is required, not whether or not information in the EIR can be tiered from a previous document. "Tiering" refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on issues specific to the later project. CEQA and the State CEQA Guidelines encourage the use of tiered environmental documents to eliminate repetitive discussions of the same issues. Notably, the Draft SEIR "tiers" from applicable discussions of the regional and local setting and regulatory framework from the March 2009 LRDP Amendment Final EIR, and carries forward applicable campus programs, practices, and procedures (PPs) and mitigation measures (MMs) for the LRDP Final EIR that are incorporated into the proposed housing projects (discussed further in Section 4.0, Introduction to the Environmental Analysis, of the Draft SEIR). The March 2009 LRDP Amendment Final EIR is incorporated by reference. When necessary, updated information is provided to reflect current environmental conditions and regulatory information.

It should also be noted the "changed circumstances" referred to by the commenter and disclosed in the Draft SEIR are not changes to environmental conditions that indicate the potential for a new or substantially more severe environmental impact of development under the LRDP, but rather are related to the 1978 Stipulated Agreement of Compromise and Order (Stipulated Agreement) between the Westwood Hills Property Owners Association (WHPOA) and The Regents of the University of California (Regents). For purposes of determining the appropriate environmental document to prepare under CEQA, substantial changes involve comparing the environmental conditions when a previous EIR was prepared and the current condition. The March 2009 LRDP Amendment Final EIR was prepared in 2008 (approved in March 2009).

7. This comment cites Section 21000, Legislative Intent, of CEQA, Public Resources Code, Division 13, Environmental Quality. The Draft SEIR been prepared in conformance with the CEQA, the State CEQA Guidelines (Title 14, *California Code of Regulations* [CCR], Chapter 3, Section 15000 et seq.), and the University of California (UC) Procedures for Implementing CEQA. Potential environmental impacts resulting from the proposed Project have been evaluated and disclosed in the Draft SEIR. Even with implementation of project-specific mitigation measures, significant and unavoidable impacts would result from implementation of the proposed Project. Because unavoidable significant adverse impacts would result from the project, The Regents, as Lead Agency, must prepare a "Statement of Overriding Considerations" before it can approve the project. A Statement of Overriding Considerations states that the decision-making body has balanced the benefits of the proposed project against its unavoidable significant environmental effects and has determined that the benefits of the project outweigh the adverse effects and, therefore, the adverse effects are considered to be acceptable.

8. The University has not requested bids for the construction of the proposed housing project at the UNEX site or any of the proposed housing projects being evaluated in the Draft SEIR. The UC system has a construction delivery method called CM (Construction Manager) at Risk. If used, the CM at Risk method is initiated before project approval and limits the CM to pre-construction drawing review, with the intent that it informs better quality cost estimates and reduces change orders. Once a project is approved by the Regents or the Chancellor, the CM is hired and the project moves into construction drawings. Bids for CM at Risk contracts have been issued for the proposed housing projects at the Lot 15 and UNEX sites. However, these bids will not be accepted until after

The Regents take action on the proposed Project, and only if the proposed Project is approved.

9. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including compatibility with adjacent uses.

10. As discussed in Section 4.5, Geology and Soils, of the Draft SEIR, the preliminary geotechnical investigations prepared for the proposed housing sites, with the exception of the Drake Stadium site, included a site-specific ground motion hazard (i.e., seismic) analysis consistent with the 2016 California Building Code (CBC) and ASCE 7-10 (American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures), using the EZFrisk program (program 7.65) in conjunction with data from the U.S. Seismic Design Maps applications provided by the U.S. Geological Survey. This analysis results in development of site-specific seismic design parameters and peak ground acceleration for the Maximum Considered Earthquake (MCEG), referred to as PGAM and measured as a proportion of the force of gravity (i.e., 0.925 g is 92.5 percent of the force of gravity). Table 4.5-1 on page 4.5-5 of the Draft SEIR summarizes the PGAM calculated for the proposed housing sites at the Lot 15, Warren Hall, UNEX and Bradley sites. As shown, the PGAM for the sites is similar, ranging from 0.897 g to 0.925 g. Consistent with requirements outlined in PP 4.5-1(a) of the March 2009 LRDP Amendment Final EIR, a site-specific geotechnical study will be prepared for the Drake Stadium site during project-specific building design; however, the PGAM is expected to be similar to the other sites on campus.

11. For clarification, the Draft SEIR does not conclude there are “no seismic issues” on campus. Rather, it is specifically identified on page 4.5-5 of the Draft SEIR that “The primary seismic hazard anticipated at the project sites is moderate to strong seismic ground shaking”. The proposed housing structures would be susceptible to moderate to strong, seismically induced ground shaking during the life of the Project and would be designed in accordance with applicable regulations, including the CBC, and engineering practices as prescribed in the preliminary and future site-specific Geotechnical Investigations, to reduce potential seismic-related impacts to a less than significant level. The Draft SEIR does correctly identify that the proposed housing sites are not within an Alquist-Priolo Earthquake Fault Zone or a City of Los Angeles-designated Preliminary Fault Rupture Study Area for surface fault rupture hazards (refer to page 4.5-11). There are no active or potentially active faults with the potential for surface fault rupture known to pass directly beneath the five sites.

    Requested financial information associated with the previous Northridge earthquake is not relevant to the Draft SEIR or the proposed Project and no response is required.

12. UCLA, along with other state and federal agencies, does not have an earthquake early warning system. However, it is worth noting that the U.S. Geological Survey (USGS) along with a coalition of State and university partners is developing and testing an earthquake early warning (EEW) system called ShakeAlert for the west coast of the United States. Long term funding must be secured before the system can begin sending general public notifications, however, some limited pilot projects are active and more are being developed. The USGS has set the goal of beginning limited public notifications in 2018. [28]

[28] ShakeAlert. 2017 (accessed December 1, 2017). ShakeAlert: An Earthquake Early Warning System for the West Coast of the United States. https://www.shakealert.org/

13. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including the height of the structures in relation to nearby uses.

14. Please refer to Response to Comment 8 above, which addresses the status of "bids" for the proposed housing project at the UNEX site.

15. Please refer to Response to Comment 3 above, with addresses bonds issued by the UC.

16. Although not relevant to the analysis of potential project impacts, budget information is being provided for informational purposes only. The Regents are being requested to approve project budgets of approximately $237.45 million for the Lot 15 site, $383.29 million for the Warren Hall site, and $209.64 million for the UNEX site.

17. As further discussed in Response to Comment 3 above, UCLA is not currently pursuing development of new classrooms, recreational projects or new study spaces beyond that already approved or under construction, or being considered as part of the proposed Project. Further, there are currently no plans for a project(s) at surface parking Lot 36. Refer to Topical Response 6, which addresses the use of this site as construction staging area for the planned Metro Purple Line subway extension. "Lot 32" was redeveloped as a parking structure in 1986 and UCLA has no plans for redevelopment of this site.

18. Subsequent to 1978, The Regents approved new LRDPs for the UCLA campus in 1983, 1990, and 2002. Increases in enrollment were addressed in the EIRs prepared for each of these LRDPs. In addition, UC system-wide enrollment increases approved by the UC President and The Regents in November 2015 were addressed in the Geffen Academy at UCLA Final EIR (SCH No. 2016021050) certified by The Regents in August 2016. These documents are available for review at the UCLA Capital Programs office.

19. "Density" is typically a measurement of the number of residential units in a given area (e.g., dwelling units per acre). There are no residential units on the UCLA campus that can effectively be measured in density, rather the campus evaluates the availability of housing based on beds. However, for informational purposes, as identified in Table 3-8, Long Range Development Plan Existing Entitlement and Proposed Allocation by LRDP Zone, of the Draft SEIR, the 419-acre UCLA campus currently has approximately 18,670,007 gsf of space that is either occupied, is currently under construction, or is approved. There are approximately 14,140 beds on campus (approximately 12,800 for undergraduate students and 1,340 for graduate students).

    The proposed Project involves an LRDP Amendment to add 1.5 million gsf of new space on campus for the proposed housing projects. When taking into consideration the existing and approved LRDP entitlement, the remaining LRDP allocation (174,615 gsf), and the proposed LRDP Amendment, there would be 20,344,622 gsf of development on campus (refer to Table 3-8 of the Draft SEIR).

20. As described in Section 2, Construction Activities, of the Draft SEIR, it is currently planned that the proposed housing projects at the Lot 15, Warren Hall, and UNEX sites would be constructed first, following by the Drake Stadium and Bradley sites. The proposed housing projects at the Lot 15, Warren Hall and UNEX sites were chosen to move forward first because they can provide the most beds with the least support services. For example, the proposed housing project at the Lot 15 site can provide up to 1,800 beds without the need to build dining.

21. The enrollment of non-resident students in the University of California system is an issue to be determined by The Regents and the President of the UC and is not part of the scope

of the proposed Project. The comment will be forwarded for consideration to the decision makers.

Comment Letter 14

From: alvin milder <alvinm134@yahoo.com>
Date: October 9, 2017 at 16:56:19 PDT
To: Tracy Dudman <t.dudman@capnet.ucla.edu>
Subject: New dorms DEIR

1. Neither the UC officers nor the Regents can,make the determination based on the facts set forth in the DEIR that there has been a "change of circumstances" that allows dorms to be built on Lot 15 . The change of circumstances for these puposes requires an act of God or some other event beyond the control of the Regents. And certainly the Regents can not be the deciding tribunal in making the determination.[See e.g.,Federalist 10, No man is allowed to be a judge in his own cause; and see also: https://www.washingtonpost.com/opinions/no-trump-cant-pardon-himself-the-constitution-tells-us-so/2017/07/21/f3445d74-6e49-11e7-b9e2-2056e768a7e5_story.html] 1

2. UCLA has failed to make an Initial Study for this for the 2017 Dorms projects is another violation of Californi's environmental laws; CEQA requires an Initial Study for this project. (See, e.g., California Code of Regulations, title 14, section 15153(b)(1); and see also UC CEQA Handbook, section 3.1.1, which states: "An Initial Study is required for any project that is **tiered under** the LRDP EIR or any other program EIR [citations omitted and emphasis added]." As set forth in UCLA's NOP, **this project will be tiered** not only from the Final EIR for the 2002 LRDP but also from the 2009 Amendment to the 2002 LRDP. 2

An Initial Study is required not only by the CEQA Guidelines and the UC Handbook , but also by UCLA's fiduciary duty under the California constitution , the requirement of due diligence, and frankly, by plain old **common sense**. The least the Chancellor and any other decision maker should do before deciding to spend $800,000,000 (a whole lot of money) of the University's scarce funds instead of using the funds from California General Obligation bonds and other sources to help students (e.g., to reduce or at least stop the increase of tuition and fees), to reduce class sizes, and to reduce or maybe even eliminate layoffs of staff and faculty, is to make a study of the many issues involved . (Some of these funds could also be used to maintain retirees' benefits.) Making a decision to allocate this much money for new dorms for non-resident students cannot be made wisely without a thorough study of the situation. The decision should be based on at least the Study items listed in the Guidelines and the Handbook. 3

With the alternative of reducing the number of non-resident students the number of new dorms required will be greatly reduced and so will the cost of the project and the harm to the environment. 4

UCLA must consider the potential urban decay issue. The dangers of UCLA's actions cannot be ignored; the blight caused by unnecessary university actions is palpable. The damages to neighborhoods caused by USC, NYU,the University of Chicago and Columbia University in New York are examples of the dangers. 5

Despite what the UCLA Chancellor says, UCLA's lack of concern for its neighbors is abhorrent and the atrocious architecture recently constructed on campus is an insult to the community. 6

Alvin Milder

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Response to Comment Letter 14
Alvin Milder
October 9, 2017

1. This comment appears to be addressing the provision of the Stipulated Agreement of Compromise and Order (Agreement) between the Westwood Hills Property Owners Association (WHPOA) and The Regents of the University of California (Regents) related to "change of circumstances." Please refer to Topical Response 3, which addresses the Agreement. The cited documents in this comment and references to The Regents do not raise environmental issues and no response is required.

2. For clarification, Section 3.1.1, Introduction to Preparing Initial Studies, of the University of California (UC) California Environmental Quality Act (CEQA) Handbook, states that "…the purpose of an Initial Study is to provide a preliminary analysis of a proposed action to determine whether a Negative Declaration or an Environmental Impact Report should be prepared… An Initial Study is not required if, through the environmental classification process, the campus determines that an EIR would clearly be required for the project; however, an Initial Study may still be desirable to identify the scope and potential cost of an EIR and may serve to eliminate some issues from further analysis". This is consistent with Section 15063 of the State CEQA Guidelines, which states that "Following preliminary review, the Lead Agency shall conduct an Initial Study to determine if the project may have a significant effect on the environment. If the Lead Agency can determine that an EIR will clearly be required for the project, an Initial Study is not required but may still be desirable."

   Based on review of the proposed Project, the University determined that a Subsequent Environmental Impact Report (SEIR) should be prepared to provide a comprehensive evaluation of all topical issues in the SEIR. The only issues that were "focused out" from further analysis in the Draft SEIR for the proposed Project were Agricultural and Forestry Resources and Mineral Resources. Every other topical issue and checklist question included in the CEQA checklist is addressed in the Draft SEIR. Preparation of an Initial Study would not have disclosed additional or different information.

   The reference cited by the commenter regarding Initial Studies being required for "tiered" documents is referring to circumstances when the environmental document is relying on the previous impact analysis provided in a Long Range Development Plan (LRDP) EIR or other Program EIR, including for previously identified significant and unavoidable impacts. As discussed under Response to Comment 6 of Comment Letter 13, the environmental document prepared for the proposed Project is a Subsequent Environmental Impact Report and does not rely on previous impact conclusion in the March 2009 LRDP Amendment Final EIR.

3. For clarification, no decision has been made by the Chancellor or any other decision maker related to the financing of the proposed housing projects. As discussed in Response to Comment 3 for Comment Letter 13 (submitted by the same commenter), the University of California (UC) issued Limited Project Revenue Bonds (LPRBs) in the amount of approximately $860.4 million for 10 projects across the UC system; none of these bonds were for the proposed housing project. The LPRBs included only one project at the UCLA campus, approximately $4 million for parking. Further, it should be noted that UCLA Housing operates within the UC System as an Auxiliary Enterprise. As such, housing is "precluded" from receiving any money from the State of California. This special operating status requires Housing Administrators to establish rates that ensure that the campus is generating sufficient gross revenues to pay all operating expenses, service annual debt, and maintain sufficient reserves to ensure that the housing program will be sustained as a long-term financially viable asset, in accordance with University policy. The Final SEIR

prepared for the proposed Project provides a comprehensive analysis of the potential environmental impacts resulting from the proposed Project and will inform The Regents of such impacts before they make a decision regarding approval of the proposed Project and associated actions.

4. The enrollment of non-resident students in the University of California system is an issue to be determined by The Regents and the President of the UC and is not part of the scope of the proposed Project. The comment will be forwarded for consideration to the decision makers.

5. This comment suggests that the EIR must consider potential urban decay. In general, economic and social effects need not be evaluated in an EIR, although an EIR may trace a chain of cause and effect where evidence shows that anticipated economic and social changes resulting from a project would. in turn, cause adverse physical effects on the environment, such as urban decay. (CEQA Guidelines section 15131(a).) The comment, however, provides no evidence that economic or social effects of development on university campuses in general, or of the proposed Project in particular, result or would result in adverse environmental effects such as urban decay, and CEQA does not require the EIR to speculate that such impacts would occur.

6. This comment reflects the commenter's opinion and does not question the content or conclusions of the Draft SEIR; no response is required.

Comment Letter 15

From: Harvey Miller <hjmesq2@aol.com>

Sent: Monday, October 9, 2017 3:12 PM

To: Dudman, Tracy

Subject: Draft Subsequent Environmental Impact Report - SCH No. 2017051024

Ms. Dudman,

I have been going to the Fox Theater in Westwood for many, many years and am a longtime West Los Angeles resident. I cannot believe that UCLA is proposing building the UNEX site! It is too tall, and a terrible development proposal. It will overshadow the community. It will obscure the view of the Fox Theater. UCLA needs to value public input, and the UNEX site is just too much. The Warren Hall should also be maintained. It is a significant architectural and historical resource. UCLA is not an apartment developer. There should be sense of history on campus. Please, do not build the UNEX or Warren Hall sites! Why did UCLA build the new basketball and football facilities? UCLA could have put in housing in those locations… To put these developments like UNEX in the Westwood community is completely unfair. UCLA should build on its main campus, not tower over the community (literally). 1 2 3

Harvey Miller

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Response to Comment Letter 15
Harvey Miller
October 9, 2017

1. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including potential historic resource impacts (e.g., to the Fox Theater). Please also refer to Section 2.2, of this Final SEIR, which addresses the current design for the proposed building at the UNEX site.

2. The commenter's support for retaining the Warren Hall building and opposition to the proposed housing projects at the Warren Hall and UNEX sites is noted and will be forwarded for consideration to the decision makers. It should be noted that the Draft SEIR (Section 5.4.2) includes evaluation of an alternative involving adaptive reuse of the Warren Hall building with 200 graduate student beds.

3. Please refer to Topical Response 2, which addresses previous land use decisions made by UCLA.

Comment Letter 16

October 9, 2017

VIA EMAIL t.dudman@capnet.ucla.edu

To: Ms. Tracy Dudman, Senior Planner
UCLA Capital Programs, Environmental Planning
1060 Veteran Avenue, Box 951365
Los Angeles, California 90095-1365

From: Debbie & Howard Nussbaum
516 Cashmere Terrace
Los Angeles, CA 90049
Nussbaum3@earthlink.net

Subject: **UCLA LRDP Amendment (2017) and Student Housing Project**
Draft Subsequent Environmental Impact Report SCH No. 2017051024

1. The Draft EIR SCH No. 2017051024 doesn't take into consideration the construction of the Purple Line Subway Extension to Westwood Village and the VA Hospital as an additional project that would require traffic mitigations in the Westwood Village area. Starting in January 2018 Metro's Purple Line extension is set to start utility relocation on Wilshire Blvd. between Westwood Blvd. and Veteran Ave. Per Metro construction work starts in 2018 and continues until 2024.
    a. Please discuss how UCLA plans to reduce campus trips during the Metro Purple Line Extension Section 3 construction.
2. How will UCLA direct daily campus traffic and housing construction trips when the Purple Line Extension Subway Project closes streets like Gayley Ave., Westwood Blvd., and Veteran Ave.to through traffic and turning traffic on to and from Wilshire Blvd.?
3. What will UCLA do to prevent traffic from being re-routed through neighboring residential neighborhoods?
4. The University Extension (UNEX) site at 10995-10997 Le Conte Avenue proposed 20 story high-rise and 9 story mid-rise buildings are being built to accommodate 1,350 beds in apartment style units for upper classmen. Please explain how a 20 story high-rise fits in to the Westwood Village Specific Plan and the maximum building height of 45 feet?
5. How does a 20 story building fit in to the North Westwood Village Specific Plan housing height requirements?
6. Twenty story building used for offices or student housing belong on Wilshire Blvd. as part of the Wilshire corridor existing plan. UCLA owns under developed land on Wilshire Blvd. why isn't UCLA putting this 20 story building on the property on Wilshire Blvd.?
7. The UNEX site is surrounded by public streets, which makes it unique for a campus dorm. The university cannot unilaterally control traffic flows on the streets that will be saturated during move in/outs. How will move in and move out of 1,350 students be handled at this site?
8. How will UCLA handle Lyft and Uber pickup and drop-off to prevent double parking and traffic congestion/blockage on Gayley, Levering and La Conte which are all Los Angeles City streets?

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1 of 2 pages

9. Gayley Ave. is the ambulance route to the UCLA Hospital and ambulances must pass UNEX site, how will UCLA assure safe conditions here especially on move in and out times of the year? Please discuss. — 5
10. UCLA should re-evaluate the placement of a 20 story building at the UNEX site; keep that site as a mid-rise building site and keep the same bed count target by adding height to each of the 3 building at the Warren Hall given that Warren Hall and UNEX sites are both apartment style housing for upperclassmen and graduate students. Please discuss. — 6
11. Given that UCLA plans to house 1,350 students at the UNEX building site (across from a gas station) and on public streets, please explain ULCA's emergency evacuation plan for this housing project? — 7
12. Current campus dorms are all mid-rise or lower why is UCLA changing to a 20 story high-rise dorm/apartment in a section of the Westwood Village where there aren't any high-rises? — 8
13. What are the plans for the parking for these 1,350 students who may wish to have a car while at UCLA? — 9
14. The EIR does not address the major deviation of the aesthetics of the dorm at the UNEX site versus the main campus and why it is appropriate to have the deviation. This is important to discuss, since the campus architect keeps tight control of the aesthetics of the buildings on campus, but in the bridge area of the campus has decided that aesthetic considerations can be disregarded and the Westwood Specific Plan and North Westwood Village Specific Plan height restrictions can be ignored. Twenty story buildings are out of place in this section of Westwood Village. Please discuss why of the aesthetics of the Westwood Village are being ignored? — 10

Sincerely yours,

Debbie & Howard Nussbaum
516 Cashmere Terrace
Los Angeles, CA 90049

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Response to Comment Letter 16
Debbie and Howard Nussbaum
October 9, 2017

1. Please refer to Topical Response 6, which addresses the proposed extension of the LA Metro Purple Line subway.

2. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including compliance with requirements in the City's planning documents. Please also refer to Section 2.2 of this Final SEIR, which addresses the current design for the proposed building at the UNEX site. It appears that this comment is also suggesting development of the Lot 36 site with housing; this is the only on campus property owned by the University along Wilshire Boulevard. Please refer to 5.3.2, Alternative On-Campus Site or Sites, of the Draft SEIR, and specifically the discussion of the Southwest zone (page 5-9), which addresses why Lot 36 has been eliminated from further consideration for development of student housing.

3. With respect to traffic control during move in and move out from the UNEX site, move-in is an event that takes place over a four-day period in September to align with the beginning of the school year. Residents will have assigned move in times, that occur every half hour to hour. UCLA schedules approximately 20 residents per half hour to move in. This timing ensures that there is a smooth steady pace that is manageable to the building temporary parking as well as the building hallways, elevators, etc. In addition, University Apartments Administration will work with the City to gain permits to block off street parking spaces on Le Conte, west of Gayley to Levering as well as the side of Levering. University Apartments Administration has navigated the same approach for the following apartment buildings: Weyburn Terrace, Landfair, Glenrock, Landfair Vista, and Westwood Chateau. The staggered move in approach maintains a positive orderly experience to load the building and not over burden parking spaces beyond the permitted blocked spaces.

   Move out traditionally beginning during finals week of the Spring Quarter. Each student has varied final schedules and thus there are not specifically assigned move out times. However, as the contract end date is the Friday of finals week, the busiest day of the week is Friday with still a fairly large size of the population remaining to move out the last day of the contract. Again, administration will work with the City to gain blocked permitted parking for the last Friday of the contract.

   Lastly, as needed, University Apartments will explore utilizing parking spaces in the nearby Gayley Court for move in and move for the residents.

4. UCLA has successfully has implemented Uber/Lyft pick-up locations on campus, and now has 13 designated location across campus. The commenter is correct that the UNEX site is surrounded by the City of Los Angeles roadways; however, UCLA is willing to discuss with the City the viability of establishing such pick-up locations within the Westwood area.

5. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including emergency vehicle access to the Ronald Reagan UCLA Medical Center, and Response to Comment 3, above, which addresses the planned process for move-in and move-out at the UNEX site.

6. The commenter's recommendation to construct a mid-rise building at the UNEX site and maintain the proposed bed count by adding units (and additional building levels) at the proposed buildings at the Warren Hall site is noted and will be forwarded for consideration to the decision makers. However, significant and unavoidable impacts resulting from the

proposed housing project at the UNEX site are cumulative in nature or related to construction activities that would still occur at the UNEX site and Warren Hall site and would not be avoided with implementation of this suggested alternative. Because this alternative would not avoid or eliminate any of the project impacts identified in the Draft SEIR, further analysis of this suggested alternative is not required.

7. As with any structure on campus, including the existing UNEX building, information will be available to building occupants regarding exit routes and what to do in the event of an emergency. As identified in Section 4.7, Hazard and Hazardous Materials, of the Draft SEIR, the designated campus evacuation area for the UNEX site is the Mathias Botanical Garden.

8. Please refer to Topical Response 1, which addresses the demand for housing and the decision to construct a high-rise residential building at the UNEX site.

9. Please refer to Topical Response 5, which addresses the provision of parking at the proposed housing sites, including the UNEX site.

10. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including aesthetic issues.

Comment Letter 17

From: Alexander W. Schwada <alex@schwadalaw.com>
Sent: Wednesday, September 27, 2017 11:41 AM
To: Dudman, Tracy
Cc: FitzGerald, Kathy; Olsen, Steve A.
Subject: UCLA Draft EIR

Tracy,

Thank you for putting on the public comment session last night. Per our conversation, I am emailing you with the questions regarding UCLA's proposed expansion, as you indicated that the format last night was not a Q and A. As my questions below will indicate, I am most interested in figuring out the details of the project and clearing up inconsistencies. I was hoping to get answers to these questions last night, so I would appreciate your prompt attention to this. Thank you in advance. 1

1. ***Enrollment Projections.*** In UCLA's letter addressed to the members of the Finance and Capital Strategies Committee (FCSC) dated May 17, 2017, it was noted that 375 more undergraduate students would be admitted per year through 2018, bringing the total increased enrollment up to 1,500 for the period between 2016-2018. What is the outlook or what are the projections for enrollment increases (or decreases) after 2018 for both undergraduate and graduate students at UCLA, specifically for the periods through 2021 and 2025? 2

2. ***Triple Occupancy.***

    a. What is the percentage of undergraduate students who currently reside in triple occupancy settings? (80% in May 17 Letter to FCSC vs. 75% in Student Housing Master Plan (2016-2026)) 3

    b. In UCLA's May 2017 Letter to FCSC, it was noted that the Lot 15, Drake and Bradley sites would include "triple rooms" – I assume this means a room designed for 3 occupants and is distinguishable in that respect from the "triple occupancy" arrangements (*i.e.*, 3 students living in a room designed for only 2 occupants), but please clarify. 4

    c. UCLA has provided a range of its "desired" triple occupancy percentages for undergraduate students in the May 17 Letter to the FCSC, the Student Housing Master Plan (2016-2026) and Draft Subsequent Environmental Impact Report from August 2017, from 60%-70% in some instances. How does UCLA determine that level, and what is the most current "desired" level of triple occupancy? 5

3. ***Net New Beds to Market.*** After taking into account "detripling" of undergrads and increased enrollment, what is the number of beds that will be added by UCLA to the housing supply net of absorption by 2021 and 2025? 6

    a. Put another way, according to Table 4.11-3 of the Draft EIR (a copy of which is attached to this email), 1,962 undergraduates would be "detripled" (*i.e.*, one student would be

moved out of a unit designed for 2 occupants but which currently houses 3 students), and, there would be 1,550 "new" students over the same period. 6 cont.

(i) Are the 1,550 "new" students a result of the increased enrollment of approximately 1,500 students over a 3 year period through 2018? 7

(ii) Is it safe to say then that UCLA projects that the sum of those 2 figures (*i.e.*, detripled students (1,962) and increased enrollment (1,550), which is 3,512 beds) would be absorbed, meaning that of the 6,900 beds to be developed the net effect of additional beds to the market would be 3,388 beds by 2025? 8

4. ***Number of Units to Be Developed in First Phase.*** There appears to be consistency as to the projected order of development, with the UNEX, Lot 15 and Warren Hall projects slated for completion in 2021-2022, but some inconsistency as to how many beds will be delivered at those 3 sites. The Draft EIR makes reference to 5,500 beds in some places (See Table 3-1, on Page 3-9, and Page 4-4), while the May 2017 letter to the FCSC references 4,500 beds. **So, what is the number of beds that will be developed by 2021 – 4,500 or 5,500?** 9

   a. So my follow up question then is whether or not the development of the remaining 2,400/1,400 beds by 2025 (depending upon whether your response to my prior question in Question 4 is that 4,500 or 5,500 beds will be developed by 2021) is a foregone conclusion, and what is the anticipated split between undergraduate and graduate beds? 10

5. ***Public Comments.*** Have any comments to the Draft EIR been filed with your office? If so, please send me a copy. 11

6. ***WHPOA Negotiations.*** What is the status of discussions with the Westwood Hills Property Owners Association, specifically have they agreed to amend the 1978 Stipulated Agreement of Comprise and Order for the Lot 15 site? 12

7. ***Bond Issuance.*** One of the speakers last night referenced the issuance of bonds by the Regents of the UC System in September 2017 to construct this proposed development (*i.e.*, the 6,900 beds). Please provide details regarding the bond issuance and the amount of the issuance, whether that actually occurred, and, if so, where more information can be obtained regarding the bond issuance online. 13

Again, thank you for your prompt attention to these questions. I look forward to getting a response very soon.

Regards,

Alex

Alexander W. Schwada
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TABLE 4.11-3
ANTICIPATED STUDENT RESIDENT POPULATION

	Lot 15 Site	Warren Hall Site	UNEX Site	Bradley Site	Drake Stadium Site	Total
New Students	1,050	0	0	100	400	**1,550**
Current Students Living on Campus in Triple Bed Rooms Designed for Two Beds (Detripling)	300	462	600	400	200	**1,962**
Students Coming Back (4th year/2nd Year Transfer Students)	200	1,000	550	50	100	**1,900**
Transfer Students	250	400	200	50	100	**1,000**
Graduate Students	0	488	0	0	0	**488**
Total	**1,800**	**2,350**	**1,350**	**600**	**800**	**6,900**

As shown, there would be up to 6,900 new beds on campus at full buildout of the proposed student housing (anticipated in 2025).[2] It is estimated that 1,962 of these would be occupied by current students living on campus in triple rooms designed for two beds. The remaining 4,938 student beds would be occupied by students not currently living on campus or students that currently live on campus but would not be able to continue to living on campus (new students, returning student residents, transfer students, and graduate students). With the provision of approximately 6,412 undergraduate beds, there would be an approximate 45 percent increase in the number of undergraduate students living in University-owned housing (on campus and within 1 mile). There would also be an approximate 14 percent increase in University-owned graduate student housing. The potential impacts associated with an increase in the on-campus student resident population are addressed in the respective sections of this Draft SEIR (e.g., 4.10, Noise; 4.12, Public Services and Recreation; and 4.13, Transportation/Traffic).

Refer to Comment 6

With respect to employment generation, it is estimated that the proposed housing projects would generate approximately 145 new staff positions on campus. These positions include approximately 23 maintenance, 4 grounds, 56 custodial, 5 administrative, 10 residential life, and 47 dining positions. It should be noted that 45 dining positions would occur at the Bradley site, the only housing project proposed to include new dining facilities. While there would be 145 new staff positions, it is important to note that many of these positions (notably dining and custodial) occur in shifts, and these individuals would not all be on campus at the same time.

Based on the direct-to-indirect employment impact ratio of 0.68 in the March 2009 LRDP Amendment Final EIR, the estimated 145 new staff positions associated with the proposed housing projects would be expected to generate 99 indirect jobs, for a total employment generation of up to 244 jobs through the year 2025. This is a negligible increase in new jobs when compared to the total existing and projected jobs in the County or even the City of Los Angeles, as shown in Table 4.11-1.

The existing unemployment rate in Los Angeles County is 4.0 percent (EDD 2017a). The unemployment rate for the Los Angeles, Long Beach, Glendale Metropolitan Division (civilian labor force) is also 4.0 percent (EDD 2017b). Therefore, it is expected that qualified area residents would fill the vast majority of additional staff positions. Accordingly, it is anticipated that most new

[2] It is estimated that approximately 4,500 beds would be available between fall 2021 and fall 2022.

Response to Comment Letter 17
Alexander W. Schwada
September 27, 2017

1. This introductory statement identifies that the commenter had questions about the project. UCLA provided the commenter with answers to the questions in the comment letter on October 3, 2017; the answers previously provided are presented in the responses below. The questions do not raise environmental issues and no further response is required.

2. As described in the Draft SEIR Project Description, the current enrollment increase of 1,500 new in-state students will be complete by 2018. As of issuance of the Final SEIR (January 2018) UCLA is unaware of future directives for new student enrollment through 2025.

3. The Fall 2017 on-campus community is at 81% triples.

4. The undergraduate student housing units described in this project include rooms designed to have triple occupancy.

5. The percentage of triples changes each year based on several variables, including: modeling student housing demand needs and student feedback and preferences.

6. Table 4.11-3 references the anticipated resident population of each of the new beds and is not a representation of how the new buildings affect the overall capacity of the undergraduate inventory. However, it is anticipated that the undergraduate capacity would increase by approximately 4,800 beds with the new developments.

7. University of California (UC) system-wide enrollment increases were approved by the UC President and The Regents in November 2015. UCLA will enroll 1,500 new in-state undergraduate students by fall 2018. Of that total, 600 freshmen and 150 transfer students enrolled in fall 2016 and 375 new students will be enrolled in both fall 2017 and 2018.

8. The calculation presented in the comment is not accurate; refer to Response to Comment 7 above. The category “New student” is referring to incoming first year students. Again, these are anticipated take rates based on historical data. UCLA Housing considers the total inventory needed to meet the demand of providing a four-year guarantee to incoming first year students and a two-year guarantee to incoming transfer students.

9. The number of beds and gross square footage (gsf) for the five project sites analyzed in the Draft SEIR are presented as “maximums” under the LRDP Amendment request to add 1.5 million gsf of new development allocation. Thus, if UNEX, Lot 15, and Warren Hall were designed to meet those maximums, the number of beds achieved would be 5,500.

10. See Response to Comment 9, above. The Draft SEIR has analyzed Drake Stadium and Bradley to potentially be built out to 800 and 600 beds, respectively; or 1,400 total additional beds by 2025. The split of beds is 488 graduate to 6,412 undergraduate.

11. As of October 3, 2017, when answers to these questions were provided, comment letters had been received from the Westwood Neighborhood Council, Adam Green and Paavo Monkkonen, and these letters were forwarded to the commenter.

12. As of October 3, 2017, when the answers to these questions were provided, the WHPOA had not issued any statement of agreement or disagreement. Please refer to Topical Response 3, which addresses the Stipulated Agreement.

13. The University of California has sold bonds for multiple housing projects, including one UCLA Parking project for approximately $4 million. The full projects list is:

- UC Davis Memorial Union Renewal
- UC Davis Tercero Dining Commons Renovations
- UC Davis Tercero Student Housing Phase 4
- UCLA SEP 2009-10 (Parking)
- UC San Diego Mesa Nueva Housing
- UC San Diego Nuevo East Housing
- UC San Diego Nuevo West Housing
- UC San Diego Osler Parking
- UC San Francisco Minnesota Housing
- UC Santa Barbara San Joaquin Apartments

Comment Letter 18

From: John Schwada <john.schwada@gmail.com>
Sent: Monday, October 9, 2017 12:35 PM
To: Dudman, Tracy
Subject: UCLA SEIR, Schwada Comment

I've seen a few EIRs in my time as a former journalist in Los Angeles but this UCLA document takes the cake for being disingenuous. It is a document that violates the very spirit of the CEQA process. That process is designed to engage the public in an honest and meaningful conversation about the environmental impacts of a project. Instead of promoting such a dialogue UCLA has engaged in a blatant whitewash and a coverup. It has cynically deployed its students and faculty as cheerleaders for a project that embodies UCLA's view whatever's good for UCLA is good for the environment and good for Los Angeles, Westwood and, perhaps, even the universe. 1

Engagement of the public. What engagement? UCLA failed to make any good faith effort to notify the surrounding community of its proposed project. The evidence is clear. Only two, perhaps three, property owners in the north Westwood Village area showed up at the EIR hearings for scoping and comments. Their non-attendance was not a result of indifference. It was a result of UCLA's calculated campaign to keep the preparation of the SEIR a virtual secret and minimize dissent. This violates the spirit, if not the letter, of CEQA and should be grounds for a judicial reprimand of UCLA and a rejection of this process as fraudulent. (UCLA compounded this travesty by orchestrating a claque of UCLA students to support the project at the September hearing. These students seem to believe UCLA is some great maternal entity as opposed to a reckless steward of tax dollars and student tuition income, squandering hundreds of millions of dollars on outrageous faculty pensions and luxurious athletic and visitor facilities that do not directly benefit the vast majority of students. Oh well, they will learn some day that mother-UCLA gladly ignores the welfare of its young for the sake of feeding its vanity and bureaucracy). 2

Significant impacts. UCLA proposes to build over one and half million square feet of new buildings; spend over a half billion dollars in construction costs; and spend 5-10 years upsetting the traffic, the air quality and peace and quiet of Westwood and the Westside of Los Angeles and can find virtually nothing but a handful of temporarily significant environmental impacts. Incredible. Preposterous. What a patent fraud. The construction of the UNEX property alone creates dire environmental impacts that have gone unnoticed by the conveniently blind authors of this SEIR. The UNEX project will: 3

1. Have a significant impact on aesthetics. A 20-story building at this location will stick out like a giant sore thumb. It will degrade local privately owned properties by creating shadow and glare impacts that are significant. Moreover, the SEIR offers no mitigations of such impacts. 4
2. Have a significant impact on public safety. The proposed UNEX tower will house nearly two thousand students (not to mention their friends and visitors), placing them on an already congested corner, next to the UCLA hospital frequented by emergency vehicles – including private ambulances and Fire Department trucks. This configuration creates the very real possibility of dangerous, even lethal, mishaps between student pedestrians and vehicles. Has UCLA honestly considered the consequences of placing its own students at risk? No it has not. Has it considered ways of minimizing such risks? Not it has not. UCLA has glossed over these issues because they are inconvenient to the university's edifice-building complex. 5
3. May have a potentially significant impact on traffic and parking. What studies has UCLA done to show that the nearly 1,300 residents of the proposed UNEX tower will forego car ownership? Or for that matter that the other upper division and graduate student residents it plans to house in proposed new projects will forego such ownership? Look at the seemingly impossible tandem parking that goes on in the north Village area now. Students who live as close to campus as the UNEX occupants live still – unbelieveably – feel the necessity of having a car and will submit to great expense and inconvenience in order to have their cars at school. So what studies can UCLA point to that credibly show that upper division and graduate school students will go car-less? UCLA has provided no such studies yet glibly finds that its project will actually not only not have significant impact on traffic and parking but also will actually improve traffic and parking. Amazing. 6

As a concerned citizen of the Westside I find this SEIR to be totally inadequate and dishonest for just a few of the reasons referred to above. Don't get me started. } 7

John Schwada, 2625 Mandeville Cyn. Rd., Los Angeles, CA. john.schwada@gmail.com 310 709-0056

Response to Comment Letter 18
John Schwada
October 9, 2017

1. This comment reflects the commenter's opinion regarding the California Environmental Quality Act (CEQA) process for the proposed Project and does not question the content or conclusions of the Draft Subsequent Environmental Impact Report (SEIR); no response is required. It should be noted that UCLA encourages attendance at public hearings and the hearings are open to any individuals that want to attend. The public hearing notice for the Draft SEIR was published along with the Notice of Availability for the Draft SEIR.

2. Please refer to Section 1.3, Public Review Process, of this Final SEIR, which describes the public outreach conducted for the proposed Project, in compliance with CEQA. As identified, approximately 65 individuals attend the public hearing. This included, but was not limited to, UCLA students and faculty, residents, property owners, and other community members.

3. This is an introductory statement to detailed comments provided in the comment letter. Responses to specific comments are provided below.

4. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including aesthetics impacts. The potential shadow impacts resulting from the proposed UNEX housing project are analyzed in Section 4.1, Aesthetics, of the Draft SEIR (pages 4.1-25 through 4.1-27). As identified, this analysis focuses on where the proposed Project would cause shade and/or a shadow on currently un-shaded, shadow-sensitive uses off campus. A privately owned residential use northwest of the UNEX site has a pool on a second-floor deck in the southern corner of the building (facing Roebling Avenue). The pool is approximately 130 feet west of the existing UNEX building at the nearest point. Additionally, as shown in the site photographs presented in Figures 4.1-4a and 4.1-4b, of the Draft SEIR, there are numerous mature trees that line Levering Avenue adjacent to this building. Based on the location of the pool in relation to the associated residential building and existing UNEX building and on the presence of the mature trees adjacent to the building/pool, the pool currently experiences various levels of shade, at varying times of day. The proposed building at the UNEX site would not cause shade/shadow on a currently unshaded, shadow sensitive use off campus. With respect to glare, as required by the Mitigation Measure (MM) 4.1-3(a) from the March 2009 Long Range Development Plan (LRDP) Environmental Impact Report (EIR), non-reflective textured surfaces on building exteriors would be used and use of reflective glass would be avoided resulting in less than significant impacts related to glare.

5. For clarification, the proposed housing project at the UNEX site would accommodate up to 1,350 beds, not "nearly 2,000" as noted by the commenter. Further, based on the proposed revised design for the housing project at the UNEX site there would be up to 1,159 beds. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including emergency vehicle access to the Ronald Reagan UCLA Medical Center.

6. Refer to Topical Response 5, which addresses parking demand and trip generation, and parking management for on campus residents.

7. This comment reflects the commenter's opinion regarding the adequacy of the Draft SEIR; responses to specific comments are provided above.

Comment Letter 19

From: Andrew strasmore <andrewstrasmore@mac.com>
Sent: Saturday, October 7, 2017 9:01 AM
To: Dudman, Tracy
Subject: Draft Subsequent Environmental Impact Report - SCH No. 2017051024.

Ms. Dudman,

I am an alumni and homeowner in the Westwood area and am writing to you today to voice my displeasure to the planned development at UCLA of 6,900 beds. Most importantly, the UNEX Site development is a very poor proposal. The development is too tall in relation to the neighboring properties and community.

I frequent Westwood village regularly and it is barely recognizable to me with its current commercialization. I could not bear to see the addition of such an imposing structure so out of place with the community. I am also concerned about adding that large of a student population directly at an intersection as busy as Le Conte and Gayley, especially given UCLA hospital's close proximity to the site and the use of Gayley by emergency vehicles. 1

I am also dismayed that I am only hearing about this for the first time this weekend. How can UCLA propose such a radical development of UCLA without the public's input? This email barely suffices – I have not had the opportunity to discuss these important issues with you or your staff. UCLA is a tax-payer funded institution – it is shocking that it would not even ask nearby homeowners for their opinion or input. If I had been afforded such an opportunity earlier in this process I would have asked UCLA what they were thinking with the UNEX Site? 2

I hope the UNEX site is not developed in its current form. Everything in the world changes but it it isn't always for the good. It would be a true sign of further disrespect to the Westwood community if it moves forward. 3

-Andrew Strasmore
Class of 1974

11359 Bolas St
Los Angeles, Ca 90049

Response to Comment Letter 19
Andrew Strasmore
October 7, 2017

1. This commenter's displeasure with the proposed Project is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, include aesthetic issues, and traffic-related issues at the intersection of Le Conte and Gayley avenues (including emergency access). Please also refer to Section 2.2 of this Final SEIR, which discusses the current design for the proposed structure at the UNEX site.

2. Please refer to Section 1.3, Public Review Process, of this Final SEIR, which describes the public outreach conducted for the proposed Project, in compliance with CEQA.

3. The commenter's opposition to the proposed housing project at the UNEX site is noted and will be forwarded for consideration to the decision makers. Please also refer to Section 2.2 of this Final EIR, which discusses the current design for the proposed structure at the UNEX site.

Comment Letter 20

September 30, 2017

Tracy Dudman
Senior Planner Campus and Environmental Planning
UCLA Capital Programs
1060 Veteran Avenue
Los Angeles, California 90095-1365

Re: Strong support for the UCLA Long Range Development Plan Amendment (2017) and Student Housing Projects tiered Draft SEIR

Dear Ms. Dudman:

Los Angeles is facing an unprecedented housing affordability crisis, and our students are not exempt from these larger market forces. In fact, as many are newcomers to the city they face the challenge of finding an affordable place to live head on. Scholars across the country agree that lack of housing supply is a key reason for high rents and extreme affordability burdens in cities like Los Angeles and neighborhoods like those near Westwood. Moreover, the University of California system has grown and is continuing to grow in the number of students it must serve, and UCLA must increase the size of its student body significantly in the near future. For these reasons, we write to express our strong support for the Long Range Development Plan Amendment (2017) and Student Housing Projects tiered Draft SEIR.

In our capacity as educators, we greatly welcome more student housing. Reports (in the news and in person) abound of students who have resorted to sleeping in their cars. This is unacceptable. Even the fact that many must commute for hours in order to afford a place to live place is a serious problem. This places hardships on students' academic life. It cuts into time they could be using to study, attend campus events, and participate in any number of extracurricular activities. Departments like ours' compete nationally for a pool of excellent students and housing cost is a factor lowering our attractiveness to the best students. Especially troublesome is the disparate impact housing costs have on students from lower-income families.

We also support this proposal in our capacity as experts in the field of urban planning. Siting new housing near places of employment, study, and services like those found in Westwood Village is an unquestioningly pro-environment action. It will reduce the use of private automobiles and greenhouse gas they emit. Moreover, with the new purple line metro station coming to Westwood and Wilshire, students living in these new units will be able to access the rest of the city easily and without significant carbon footprint. The fact that parking is limited in these new buildings is especially welcome. In fact, scholarship from our department (for example, by Donald Shoup) has been cutting-edge in demonstrating the high costs of mandatory parking minimums.

We commend UCLA for responding to the housing crisis facing the city by building student housing on campus, and reiterate our support for this project, as educators and urban planners.

1

1

Sincerely,

Paavo Monkkonen
Associate Professor of Urban Planning and Public Policy
UCLA Luskin School of Public Affairs

Leobardo Estrada
Associate Professor of Urban Planning
UCLA Luskin School of Public Affairs

Joan Ling
Lecturer in Urban Planning
UCLA Luskin School of Public Affairs

Carol Goldstein
Lecturer in Urban Planning
UCLA Luskin School of Public Affairs

Anastasia Loukaitou-Sideris
Professor of Urban Planning
UCLA Luskin School of Public Affairs

Martin Wachs
Distinguished Professor Emeritus of Urban Planning
UCLA Luskin School of Public Affairs

Dana Cuff
Professor of Architecture, Urban Design and Urban Planning
UCLA Luskin School of Public Affairs

Michael Lens
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Brian Taylor
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Kian Goh
Assistant Professor of Urban Planning
UCLA Luskin School of Public Affairs

Michael Storper
Distinguished Professor of Urban Planning
UCLA Luskin School of Public Affairs

Abel Valenzuela
Professor of Urban Planning and Chicano Studies
UCLA Luskin School of Public Affairs

3

Response to Comment Letter 20
Various UCLA Faculty and Lecturers
September 30, 2017

1. This commenters' support for the proposed Project, which will address the current demand for student housing on campus, is noted and will be forwarded for consideration to the decision makers.

Comment Letter 21

October 9, 2017

Sherry West

Homeowner: Westwood Hills

Sherrydarling12@gmail.com

310-472-0707

Response to DEIR

If land on "on the hill" is at such a premium, why did UCLA choose to build the Ostin basketball and Wasserman football centers instead of devoting the land to new dorm development projects? 1

Please analyze as an alternative to building dorms on lot 15, using the land presently occupied by the the Los Angeles tennis center instead. Once the dorms are completed at the BRADLEY AND DRAKE STADIUM SITES, it would serve to consolidate the underclassmen housing on "the hill". If the Los Angeles tennis center was moved to the sunset rec center, that would serve to consolidate much of the recreational facilities. Of course, there are other sites on campus that the tennis center could be moved to and it is hoped that this request be given careful consideration. 2

In the DEIR, there is no mention of the impact of the metro construction set to begin in winter of 2018. Much of the Wilshire corridor and westwood village along with westwood blvd, gayley, veteran and other streets will be severely impacted by the construction set to coincide with the dorm construction. Traffic flow will be severely impeded and westwood hills will be suffer significant negative impact. Additionally, the cycling lobby has lobbied to have car traffic reduced to one lane each direction to accommodate a bike lane. This will add additional stress to an area already choked by commuter traffic. WHAT PLANS DOES UCLA HAVE IN PLACE TO MITIGATE THE TRAFFIC CAUSED BY THE SIMULTANEOUS CONSTRUCTION PROJECTS?! Furthermore, HOW WILL UCLA ENFORCE THE HAUL ROUTES (which clearly direct trucks down Wilshire and through westwood village) so that frustrated truck drivers do not cut through westwood hills in the quest for expediency? The impact of these concomitant projects cannot be understated or minimized. Traffic flow and quality of life in westwood hills will be horribly compromised.

It doesn't appear that UCLA has anticipated all of the negative consequences that the Westwood Hills community will suffer as a result of these two large projects commencing simultaneously. Why does the DEIR FAIL TO ACKNOWLEDGE the start the metro rail project along with the fact that the 2 projects will occur at the same time? 3

In the event that UCLA proceeds with development of dorms on the lot 15 site, please find additional comments on next page. 4

Given the decisions to build the Wasserman football and Ostin basketball centers on valuable acreage located on "the hill" knowing that housing is at a premium and knowing that officials would want to consolidate underclassmen housing in one area, how can UCLA guarantee that in the future Lot 15 will not be developed in non benign use applications? What type of assurances can the WHPOA anticipate receiving? 4 cont.

At the intersection of Veteran Avenue and Cashmere, there is a curb cut along with a wall and gate. UCLA has stated they plan to improve this site, while not allowing traffic to pass through the gates (maintaining a no-access agreement as set forth in the stipulated agreement). What are the plans for this location? Further south on veteran (less than 200 feet-across from 315 Veteran) are curb cuts with fencing and a gate. What are the plans for this location? Would UCLA consider removing the curb cuts from one of these 2 locations, removing the gates, sealing the fence and improving the appearance at the emergency access for the remaining location? By doing that additional trees and landscaping could be planted to create a deeper screen helping to protect the surrounding neighborhood from noise, light and the visual impact of the dorm project. 5

it's imperative that UCLA place sufficient funding into an escrow account for the express purpose of landscaping the area directly impacted by building on lot 15. What measures can UCLA put in place to assure WHPOA that sufficient landscaping will be provided? 6

Has enough careful thought and consideration been given to reducing the size of the proposed project on lot 15 so that the dorms would not need to be 10 stories high? Merely lowering the leading edge of the buildings doesn't mitigate the impact of their overall size, their looming over the surrounding R1 neighborhood nor the negative environmental impacts of adding that many students and support staff to the benign use area. 7

The Warren hall site has enough space to accommodate many more students than is currently being proposed. Certainly the upper and lower classmen attending UCLA can live harmoniously. Has UCLA given this concept enough careful consideration? Merely wanting to clump certain age groups together doesn't warrant building on lot 15. 8

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Response to Comment Letter 21
Sherry West
October 9, 2017

1. Please refer to Topical Response 2, which addresses previous land use decisions made by UCLA.

2. The commenter's recommendation to construct student housing at the Los Angeles Tennis Center (LATC) instead of the Lot 15 site, and to move the tennis courts to the Sunset Recreation Center is noted and will be forwarded for consideration to the decision makers. However, significant and unavoidable impacts resulting from the proposed housing project at the Lot 15 site are cumulative in nature and would not be avoided with implementation of this suggested alternative. Additionally, the space requirements for the LATC could not be accommodated at the Sunset Recreation Center without displacement of existing recreation uses. Further, there would be additional impacts resulting from construction activities associated with development of tennis courts at the Sunset Recreation Center, resulting in potential greater impacts than with the proposed Project. Because this alternative would not avoid or eliminate any of the project impacts identified in the Draft SEIR, and impacts would potentially be greater, further analysis of this suggested alternative is not required.

3. Please refer to Topical Response 6, which addresses the proposed extension of the LA Metro Purple Line subway.

4. If the proposed housing project at the Lot 15 site is approved, other development at this site would not be feasible. Negotiations related to modification of the Stipulated Agreement of Compromise and Order (Stipulated Agreement) between the Westwood Hills Property Owners Association (WHPOA) and The Regents of the University of California (Regents) to accommodate the proposed housing project at the Lot 15 site are occurring through formal coordination between UCLA, The Regents and currently authorized representatives from the WHPOA. Please also refer to Topical Response 3, which addresses the Stipulated Agreement.

5. The access gates referred to in this comment are for emergency access purposes. The proposed housing project at the Lot 15 site does not cause any impacts or project characteristics that warrant removal of any of the existing emergency access locations.

6. Landscaping is incorporated into each of the proposed housing projects, including at the Lot 15 site. Further, as required by Mitigation Measures (MMs) 4.3-1(c) and MM 4.3-4 from the March 2009 Long Range Development Plan (LRDP) Final Environmental Impact Report (EIR), which are incorporated into the proposed Project, mature trees removed would be replaced at a 1:1 ratio and protected trees would be replaced at a 2:1 ratio. Compliance with these MMs will be ensured through required ongoing mitigation monitoring, which is outlined in the Mitigation Monitoring and Reporting Program for the proposed Project (refer to Section 5, of this Final SEIR).

7. Please refer to Section 2.2 of this Final SEIR, which addresses the design submittals being considered by The Regents, including the current design for the proposed housing project at the Lot 15 site. As identified the structures at the Lot 15 site would not exceed 8 levels.

8. The proposed housing project at the Warren Hall site already includes undergraduate and graduate student beds. The commenter's recommendation to provide additional beds at the Warren Hall site is noted and will be forwarded for consideration to the decision makers. However, as discussed above, significant and unavoidable impacts resulting from

the proposed housing project at the Lot 15 site are cumulative in nature and would not be avoided with implementation of this suggested alternative. Because the suggested alternative would not avoid or eliminate any of the project impacts identified in the Draft SEIR, further analysis of this suggested alternative is not required.

3.4 RESPONSES TO COMMENTS MADE AT THE SEPTEMBER 26, 2017 PUBLIC HEARING

A public hearing for the UCLA LRDP Amendment and Student Housing Projects Draft SEIR was held by UCLA on September 26, 2017 at the UCLA Luskin Conference Center. Thirty-three named individuals and several additional unnamed individuals spoke at the public hearing. Their comments are summarized in the attached minutes of the public hearing and responses to their comments follow.

CERTIFIED COPY

Hearing Transcript

PUBLIC MEETING)
IN RE: DRAFT EIR)
)
LRDP AMENDMENT (2017) AND)
STUDENT HOUSING PROJECTS)
_____)

LRDP AMENDMENT (2017) AND STUDENT

HOUSING PROJECTS PUBLIC HEARING

September 26, 2017

Reported by: Laurie A. Schmidt, CSR No. 12719
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PUBLIC MEETING)
IN RE: DRAFT EIR)
)
LRDP AMENDMENT (2017) AND)
STUDENT HOUSING PROJECTS)
_____)

LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS PUBLIC HEARING, taken at UCLA, Luskin Conference Center, 425 Westwood Plaza, Los Angeles, California 90095, on Tuesday, September 26, 2017, at 5:00 p.m., before Laurie A. Schmidt, Certified Shorthand Reporter No. 12719.

LOS ANGELES, CALIFORNIA; TUESDAY,
SEPTEMBER 26, 2017; 5:00 P.M.

TRACY DUDMAN: Thank you all for coming.

So, this meeting is for a public hearing. This is called a public hearing. It's a specific term for environmental review under the California Environmental Quality Act. And the purpose of the meeting is to hear your comments on our Long-Range Development Plan Amendment (2017) and Student Housing Projects Subsequent EIR.

That document is out for public review. It has been since August 24th, and it will remain out for public review until October 9th. 1

So, this is not the only forum in which you can comment; this is just a forum to make verbal comments. So, written comments can be sent to me anytime up until 5:00 p.m. on October 9th.

PARTICIPANT: Will you be answering any questions?

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PUBLIC HEARING

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TRACY DUDMAN: Yes.

PARTICIPANT: Are you going to be posting your e-mail?

TRACY DUDMAN: I have information with me that has all of my -- the address and --

PARTICIPANT: I beg your pardon. What's your name?

TRACY DUDMAN: Sorry, everybody. Sorry. My name is Tracy Dudman. I am senior planner of the Capital Programs here at UCLA.

PARTICIPANT: Can we ask questions before we make comments?

PARTICIPANT: I hope not.

TRACY DUDMAN: If you can give me a minute to get through this.

PARTICIPANT: Okay. But could you answer that question?

TRACY DUDMAN: Okay. This format is actually about hearing the public speak.

1 cont.

PARTICIPANT: Okay. But, so, will you be able to answer questions; yes or no?

TRACY DUDMAN: We are not going to be answering questions.

PARTICIPANT: You just said a minute ago, yes. So, it's kind of like e-mailing you; you never get any information from you.

TRACY DUDMAN: Okay. All right. Okay. So, we'll move on.

The purpose of the meeting is, again, for the LRDP and the Housing Projects.

So, the University has both undergraduate and graduate housing on campus, but we need more housing. I'm going to go through several points on the purpose and need, but the project, in and of itself, is for both graduate and undergraduate housing. We have five sites, all on campus, and this will develop up to 6,900 beds by 2025.

So, the need for this number of beds -- we're looking to provide on-campus housing options that are affordable

1 cont.

5

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for our students, and the affordability as compared to off-campus and housing that is available within the community or nearby. It's also to partially accommodate increased enrollment, which the UC president and regents agreed to several years ago.

UCLA is committed to taking on 1,500 new in-state students, and that will -- has already started. It happened in Fall '16, and will be completed by Fall of '18.

We have a Student Housing Master Plan in which we have goals to provide guarantees for housing. Through this project, we're going to increase housing guarantees for first-year students from three to four years, and guarantee for transfer students from one year to two years. We're also going to attempt to meet our graduate housing demand. 1 cont.

I'd like to direct -- this is now a little further away for all of you to see. You're welcome to come look at these images later.

This is an image directly from the LRDP DEIR, as are all these images on the wall. This is showing the campus --

or the locations of the projects, and they correspond to the images that are on the wall over there.

So, we have five housing sites; we have Lot 15, which is up in the northwest zone; Warren Hall, which is in the southwest; UNEX, which is in our bridge zone; Bradley and Drake -- I'm sorry. Bradley is also in the northwest; and then, we have Drake Stadium, which is in the central zone.

I highly encourage you to look at the images over there. But what I will describe for you from here are what we are proposing to build on each of them.

1 cont.

Lot 15, again up here: 353,000 square feet and 1,800 beds. This is undergraduate housing in a dormitory style.

Warren Hall, located here in the southwest zone: 650,000 square feet; 2,350 beds. It is a mix of graduate and undergraduate housing. It is apartment-style.

UNEX, right here in our bridge zone: 350,000 square feet; 1,350 beds; apartments for undergraduates.

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PUBLIC HEARING

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Bradley, right here: Currently, an undeveloped site; 122,000 square feet for 600 beds; undergraduate, dormitory style

And finally, Drake Stadium, which would be built over the concourse of the stadium. So, the stadium remains, and we just build over it -- or over a piece of it; 240,000 square feet and 800 beds. Again, for undergraduates in a dormitory style.

I'm going to just briefly explain the format for the meeting. We have a number of people here; we have a lot of people who want to speak. It's very important that we hear what you have to say about the project and about the analysis in the EIR.

I have -- I don't know -- 25-ish people, maybe more, who want to speak. So, we are --

PARTICIPANT: Where was the sign-up sheet?

TRACY DUDMAN: It was ...

PARTICIPANT: Was it in the other room?

1 cont.

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PUBLIC HEARING

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PARTICIPANT: It was right next to the --

PARTICIPANT: Yeah, it's in the other room.

PARTICIPANT: Well, some of us didn't go in the other room.

TRACY DUDMAN: Okay.

PARTICIPANT: There's a sign-in sheet.

TRACY DUDMAN: Did you want a speaker card?

PARTICIPANT: No, I'll just raise my hand when everybody finishes.

TRACY DUDMAN: Okay. All right. Fair enough.

PARTICIPANT: I just wanted to point that out.

TRACY DUDMAN: All right. So, we are going to limit people to three minutes to make sure that everybody has a chance to speak. If you feel that your three minutes is not adequate, we'll have you come back around at the back end; okay? We just need to make sure that

1 cont.

everybody has a chance to speak.

All right. I'm going to be tracking the time, and I will let you know when you have one minute remaining.

Again, about the format. So, this is -- if I misspoke before, this is not a question-and-answer session. Right? When you come up here to speak, you are speaking directly to us, in your own words. Three minutes is all yours. What our job is is to take all of the things that you say -- we have a court reporter present, and she is recording everything I'm saying right now; she's going to record everything that you're saying, and we are going to respond to everything that you say. When we see a distinct issue or comment or question, we are going to answer them. This is not the format in which we are going to answer them, but we will answer them in the Final EIR. Okay? 1 cont.

All right. So, for those of you who maybe missed the sign-up sheet, I think the process we'll do is we'll let everybody who did sign up speak, and then, you can raise your hand and let me know that you would like to go. Okay?

I have a request from Ann Hayman, and she will speak first.

ANN HAYMAN: Thank you so much.

TRACY DUDMAN: You're welcome.

ANN HAYMAN: I appreciate the flexibility of putting me first because I have to go to another board meeting.

My name is Ann Hayman. I live in Westwood. I'm a property owner, and I am a UCLA alumni. I have two degrees from UCLA, so I'm very much a Bruin. 2

I view with alarm the way this housing proposal has been submitted. We recognize that there is a housing shortage for students. And my issue really is the way the beds have been allocated among the five sites. Particularly, the one on Le Conte, the -- oh, what is it? 3

TRACY DUDMAN: UNEX.

ANN HAYMAN: The UNEX building. And 20 stories, which is incredibly high, with no parking, with over 1,300

students overlooking Westwood Village, not to mention the aesthetics and the historical aspects of the Village and the Fox Theater. 3 cont.

My suggestion is -- there's a recognition we need housing -- that the Le Conte site be no higher than the current building is now. We need parking to build a building on Le Conte. Without parking, it's totally ludicrous. Keep it at the height that it is now, with two levels of subterranean parking, and reallocate those beds to the other four sites. So, keep the number of beds, but don't just build a 20-story building on Le Conte. The Murphy Hall -- not Murphy Hall. Is it Murphy Hall? 4

TRACY DUDMAN: Warren Hall.

ANN HAYMAN: Oh, Warren Hall, with this location, a little bit set back, might be one of the sites that can handle more housing.

So, negative impact on Westwood. There was currently a 45-foot height restriction in Westwood. These buildings go way above that. But as compromise in recognizing there is a housing issue, to reduce significantly the Le Conte site and redistribute those beds to the other 5

side with adequate subterranean parking. Thank you. } 5 cont.

TRACY DUDMAN: All right. I'm going to call everyone else in the order in which they were signed.

So, Alvin Milder.

PARTICIPANT: Tracy, you might get the next speaker prepped, just so they're up here, so we don't have to wait for everybody to come down.

TRACY DUDMAN: Sure. Tima Farmy.

ALVIN MILDER: My name is Alvin Milder. I'm a long-time resident of Westwood. In fact, I worked on the stipulated agreement four years ago, and here we are, back again.

I must say that one of the biggest flaws of this process is the fact that UCLA is ignoring the stipulated agreement, violating it, and moving forward. And I want to remind everybody that as stated in the UC CEQA Handbook, the goal of fully informing the public of development is at the heart of CEQA. } 6

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PUBLIC HEARING

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I'll try to edit this as I go.

As the Supreme Court has said, the purpose of CEQA is not to generate paper, but to develop government at all levels to make decisions with environment consequences in mind. Here, UCLA has reduced CEQA to a process that's resulted to generate paper. The DEIR Draft Environmental Impact Report is almost 2,000 pages, and to produce an EIR that describes a journey whose destination is already predetermined by UCLA, and committed to before the public has had any chance to see either the roadmap or the full environment price tag. 7

Contrary to requirements of CEQA and the UC CEQA Handbook, UCLA's DEIR not only does not inform the public, in which its projects are included in the already-issued bonds by University of California. University of California, 870 million bonds were issued on September 19th, and nor does UCLA disclose these already-solicited bids from the UNEX site. In other words, this is another UCLA post hoc graduate rationalization for important environmental projects.

TRACY DUDMAN: One minute, Alvin.

ALVIN MILDER: Pardon me?

TRACY DUDMAN: One minute.

ALVIN MILDER: Well, the DEIR also fails to disclose the other phases of the Student Facilities Plan associated with UCLA's planned enrollment program. For example, UCLA's need for additional classroom facilities, or additional study spaces, and for additional recreational facilities -- UCLA has segmented the project in different phases under the plain -- and under the plain language of CEQA UCLA guideline, a long line of cases covering decades of CEQA enforcement, this segmentation of the project is a per se violation of the statute. 7 cont.

The DEIR is deficient in many areas. For example, UCLA must tell the public what is the status of the bids that are received for the UNEX building, and what UCLA projects are included in the September 19th bond issue.

As required by CEQA, UCLA, and the UCLA CEQA Handbook, and good urban design principles, the DEIR must state how the many new buildings UCLA is proposing will be compatible with the height of adjacent buildings, especially the proposed 20-story UNEX building in the Village. 8

TRACY DUDMAN: It's time, Alvin.

ALVIN MILDER: And the Lot 15 -- the one next to Hitch and Saxon. 8 cont.

TRACY DUDMAN: Alvin?

ALVIN MILDER: Is that it?

TRACY DUDMAN: Yes.

ALVIN MILDER: I'll put the rest of mine in the letter. Thank you very much.

TRACY DUDMAN: Thank you. Paavo Monkkonen.

TIMA FARMY: I thought I was next.

PARTICIPANT: Yeah, you are.

TIMA FARMY: Oh.

PARTICIPANT: They're calling you next.

TRACY DUDMAN: He's on deck.

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TIMA FARMY: My name is Tima Farmy, and I've had two properties in Westwood for over 35 years. And I would like to remind UCLA that you do not own Westwood Village.

Your proposal for the Le Conte property is outrageous. I really could not believe that you believe your own stuff and think that this is environmentally correct. That is such an over-trafficked intersection. You've got the ambulances going to the hospital. It is like an abuse of a neighborhood. Westwood Village used to have seniors living in it; working people; families. UCLA has now dominated it to such an extent that it's, you know, almost discriminatory. If you want to build this kind of housing, put it on your campus. Put it on your campus. Let the rest of us have, you know, a life that is not just totally dominated by UCLA. 9

Also, your notification process is piss poor. I own two properties, have been forever, and I never had any notification of any of this. I just found out on a random search. 10

The one thing UCLA should know -- because I've seen UCLA do this before -- they overbuild. They overbuild, rents 11

go way down, and so do your rents go down. And when you do that, how are you going to keep funding all of this when you've spent all these millions of dollars?

In addition, your figures for the cost per unit to build are a joke. $200,000 a unit; $15 million for 7,000 units. It's a joke. When you built in 2009, it was over $250,000 a unit, and that was at the height of the recession when the prices were the lowest, and your construction was not very good.

Look, you're overdoing it. You are overdoing it. And nobody knows the figures. I've had e-mail exchanges with you and someone else in your office, and they say, "Come to the meeting and you could find out more." You don't let us ask any questions. That little, you know paragraph blurb you gave as an intro, we all know that. We have questions about it. And you -- we deserve answers. In your e-mail to me, you said you don't know anything about construction. Well, then, why are you in the planning department?

11 cont.

This is -- it's just -- you're going too far. And you want to build 7,000 units. What do you think is going to happen to other property owners in the area? The

12

private housing providers; what's going to happen to them? Everybody's rents will plummet. And I don't know if UCLA knows the latest, but this summer, rents went down almost 20 percent. You guys don't know that.

PARTICIPANT: That is amazing.

TIMA FARMY: How affordable is UCLA, what they charge? They're not giving it away. They're not giving it away.

12 cont.

PARTICIPANT: Certainly not, but an education --

TIMA FARMY: You think they're -- this is my time to talk, not yours.

TRACY DUDMAN: Okay. Okay. Please. Please. Your three minutes is up.

TIMA FARMY: Fine.

TRACY DUDMAN: I have Stephen Hohde. If we could be courteous and let everybody be heard here.

PAAVO MONKKONEN: Hey, everybody. How are you doing? My name is Paavo Monkkonen, and I'm a professor in

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public policy and urban planning at the Luskin School of Public Affairs here on campus. Thank you, Mr. And Mrs. Luskin for your generous donation.

I'm not a property owner in Westwood, and I don't think that being a property owner gives you more standing than being a student in Westwood. How many students?

13 cont.

(Cheers and applause.)

TIMA FARMY: Money does give you some standing.

PAAVO MONKKONEN: I do --

PARTICIPANT: It's not your time.

PAAVO MONKKONEN: Sorry. I do have --

TIMA FARMY: You interrupted.

PAAVO MONKKONEN: At UCLA, my dad was actually a professor here, so I grew up near campus. And it's great to see the changes happening. I'm in full support of all these projects. I understand that change can be hard, but change happens whether we build to adapt to it

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or not. The fact is that in productive metropolitan areas in the United States, prices are going up because of the lack of new supply for housing, and that's damaging young people; that's damaging the environment; that's damaging regional economies. And we need to build to adapt to the population pressures that are happening in our metropolitan areas. I'm especially concerned to see my students not have an affordable place to live; sleeping in their car; not being near campus; they're late because they have to commute so far. So, building tall towers without parking near campus is exactly what all of the urban planning experts say we need to do. So, I happen to study housing markets and land use regulation internationally and in the U.S., and I can tell you that we need more of this kind of project, not less of it. 14 cont.

I have lots more to say on this topic; I give lectures on it all the time. So, I'll stop and let other people talk. If you want to read some of my work or interact with me about the details and the research on this stuff, I'd be happy to. Just look me up on the Luskin school's website. And for you CEQA connoisseurs, pretty soon, if we change the law, infill housing will be a mitigation. That's like an urban planning nerd mike

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PUBLIC HEARING

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drop. Thank you.

TRACY DUDMAN: We've been asked if we can hold our whistles, clapping to a minimum. It's only because of the court reporter. So, I apologize for the enthusiasm.

PARTICIPANT: So, you stop the applause just when I get up?

TRACY DUDMAN: No. All right. Sorry. I also have Alex Schmader on deck. Is that correct?

ALEX SCHMADER: Yeah. Schmader.

TRACY DUDMAN: Schmader.

ALEX SCHMADER: So, you're not answering any questions; correct?

TRACY DUDMAN: We are not answering questions.

PARTICIPANTS: Well, you can ask questions in your comments.

TRACY DUDMAN: And Amy Liu is next. Okay. Thank you.

STEPHEN HOHDE: Thank you. My name is Stephen Hohde. I'm a member of the Westwood Hills Property Owners Association. I'm a long-time resident in two different periods in Westwood. I wish these charts were here so you could actually see them. And in the case of Chart 1, I'm focusing on Lot 15. Instead of an aerial shot, I wish it was a land shot that would show the tremendous intrusion of these huge towers overshadowing Veteran Avenue; I believe this is one of the only projects that would have a substantial intrusive impact on a residential area bordering UCLA. It would add several towers overlooking an exclusively residential neighborhood, thereby increasing noise and other negative environmental impacts. This has been designated, Lot 15, as a benign-use area, and the university is violating the stipulated judgment with our association in the way in which they're planning this intrusion and building it. 15 16

I think this is a serious sham EIR process. I think the university, given its bond issue, has already decided this and is paying lip service to us and the community by holding sham hearings of this kind. It was indicated in the introduction that it was agreed years ago to increase housing in this fashion, but the university has 17

been as damaging to students as they have been to owners because it's a form of bait-and-switch in which they invite these wonderful students here but have not planned for housing that would not have the kind of environmental violations I mentioned. 17 cont.

The EIR provides for no genuine mitigation. Good design standards are being violated in the way that this is being planned because it fails to consider compatible -- that it must be compatible with existing conditions. 18

TRACY DUDMAN: One minute, Stephen.

STEPHEN HOHDE: Those towers are vastly intrusive on the other neighborhood. 19

Finally, there has been no showing that all alternative means and spaces on the campus have been exhausted, despite the other numerous plans that would avoid this kind of intrusive set of towers. People did not move to live on Veteran Avenue, which is facing a green space, with any expectation or notice that they would be facing these huge towers. For these and other reasons, which the association and I and other individuals will submit in writing, we oppose this project. 20

TRACY DUDMAN: So, I have Amy.

AMY LIU: I think he was going to -- he was ahead of me.

ALEX SCHMADER: I'm just going to read my questions.

TRACY DUDMAN: Oh, okay.

ALEX SCHMADER: My name is Alex Schmader. I'm an attorney. I'm a represented property owner in the area. And I'm just going to read the questions, since they're not going to be answered, but I would look forward to maybe asking them to you at a later time.

TRACY DUDMAN: Well, they will be answered.

PARTICIPANT: Will you move closer to the microphone? We can't hear you. 21

ALEX SCHMADER: Yes. Sorry.

PARTICIPANT: Thank you.

PARTICIPANT: If you would actually move the microphone down.

TRACY DUDMAN: I'm sorry, go ahead.

ALEX SCHMADER: Anyways, I really only have a few brief questions. Again, I'd like to ask you and get an answer to them at a later time.
My questions are, first off, what is the potential increased enrollment for the university moving forward? We know there's 1,500 additional through 2018, but after that date, what do the figures look like; what has your team and the UC regents come up with; has anything been decided?

My other question is after taking into account the reduction in triple occupancies, which are three people living in a space designed for two people, and combined with increased enrollment, what is the number of beds that will be added by UCLA net of that absorbed amount?

Okay. In addition, a really basic factual question is how many beds are going to be added by 2021? There's conflicting information in your submission to the regents on May 17th of 2017, as well as in your Draft EIR. Is it 4,500? Is it 5,500? I don't know. I'd like to know.

21 cont.

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Okay. In addition, your office has stated that they have a desire to reduce triple occupancies and that they have a range that they would like to see it in. And I want to know what that range is and if there's an update to that range. Is it between 60 and 70? Is it between 60 and 75? 65 and 75? Again, these are just facts or estimates that you guys should have available.

And then, the other question is whether or not it's a foregone conclusion as to whether you will be developing the additional total 6,900, or will you start with 4,500 or 5,500, whatever the number is, and then, reassess, or is it just going to be 6,900? That's the question.

In addition, I want to know if any comments to the EIR have yet been filed with your office and, if so, whether or not they're publicly available, and how to access them.

21 cont.

TRACY DUDMAN: You have one minute.

ALEX SCHMADER: I have one.

TRACY DUDMAN: Uh-huh.

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ALEX SCHMADER: And then, lastly, I guess I can ask the gentleman from the Westwood Hills Property Owners Association directly at a later time, but I'll just do it here as well, as to what the status is of any negotiations to potentially modify or, I guess, terminate or -- you know, what the status of the negotiations are with respect to the stipulated order. That's it. 21 cont.

TRACY DUDMAN: Did you guys need the mike? I have Thomas Abbor on deck.

AMY LIU: Hello, everyone. My name is Amy Liu, and I am a property owner in the Westwood Hills neighborhood. And I attended the meeting several months ago that the university held with our community; I've also skimmed the Draft EIR. And I'm here today on behalf of 10 families from my neighborhood, many with small children. 22

In consideration of the 1978 stipulated agreement with the Westwood Hills Property Owners Association that UCLA must abide by and the likelihood that the university will progress with their housing development plans in some way versus not at all, we believe UCLA should

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accommodate our neighborhood's concerns and requests.

On behalf of the families, I am here to make two specific requests: One is a children's playground and community garden at Sycamore Park, which is the park that currently exists at the Lot 15 site. And the second is pedestrian access to this park via Veteran Avenue. We believe these are benign uses that fit within the scope of the 1978 agreement. Our neighborhood lacks open green space, especially space where children and their caretakers can easily walk to and play. We understand some neighbors are hesitant for any development to occur on Lot 15, and we appreciate their concerns. At the same time, if UCLA will proceed with housing development, then there should be a reciprocal benefit to the community. We believe pedestrian access and family-friendly enhancements to the existing Sycamore Park are highly favorable gains for our neighborhood. Thank you for your time and consideration. 22 cont.

TRACY DUDMAN: Thomas is speaking, and I have Rafi Sands to follow.

THOMAS ABBOR: Hi, everyone. I'm going to be super 23

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brief. I'm Thomas Abbor. I'm a graduate student in the Luskin School of Public Affairs. And as someone who's recently undergone a housing search on the west side of Los Angeles, as I'm sure many of the students here have done, the price of housing is absurd. It's very difficult to find housing at a price that's reasonable on graduate student loans. And so, I support any project that increases the supply of housing in this neighborhood. 23 cont.

I also want to make a point that I think it's a misuse of environmental terminology to speak out against dense housing from an environmental perspective. I think all of the existing research shows that this is something that, as Paavo said, we need more of rather than less of. And to say that we have to build more parking in a dense, walkable community, I think it similarly runs in counter to existing research. So, that's all I wanted to say. Thanks, everyone. 24

TRACY DUDMAN: I have Terry to speak after Rafi.

RAFI SANDS: Hi, everyone.

TRACY DUDMAN: Terry Tegnazian. Sorry.

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RAFI SANDS: My name is Rafi Sands. I'm here from -- speaking from two perspectives, really. The first of which is I just moved out of the building directly touching the university extension site, Club California, at 812 Levering. I feel that as a resident who lives directly next door to the site and had to leave because my housing rent increased to $3,600 for a two-bedroom apartment, this idea that rents are plummeting or are going to plummet is just not true. I'm now moving into a three-person bedroom, an apartment with twelve people living in it, because it's the only way that I can get rent below $700. 25

The second perspective. I'm here from -- I serve as the undergraduate representative on the UC Board of Regents. I represent 210,000 students. As many of you know, the Board of Regents is what approved this plan earlier this year. And I want to point out, you know, some of the concern that -- you know, really to answer the attorney's question here: What are the enrollment predictions? The answer is that we don't know. UCLA doesn't know; the regents don't know because we're not the ones deciding that. It's the State of California. So, if you're upset about the changes that are coming with difficulty in increasing enrollment, you should go 26

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call your local assembly member; you should call your senator; you should call Jerry Brown and tell him, "I'm upset that you're increasing enrollment at the UCs," which includes UCLA.
Second of all, at the regents meetings, every single month, we hear a half-a-dozen, sometimes, proposals for new projects. This is not a unique thing that's happening at one of the UC campuses, this idea that, oh, why are they forcing them here? They can find some other spot. Every single UC campus is doing this because every single UC campus is taking new students because the State of California and the citizens of California have spoken up and said, "We want the State to serve California residents to take more in-state students." 26 cont.

So, I really do encourage you all -- I mean, that's -- if you're concerned about the design specifically, go talk to the State. I'm not concerned about the view, as someone who lives there; right? I should have a say in terms of how that view, you know, affects my experience as a resident. So, thank you. 27

PARTICIPANT: You won't even be here.

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RAFI SANDS: Actually, I will be here. Thank you. If I can't afford it, I won't be.

TRACY DUDMAN: After Terry, I have John Heidt.

TERRY TEGNAZIAN: Thank you. My name is Terry Tegnazian. I'm a property owner in Westwood Hills and, also, a business owner in Westwood Village. I will be filing comments -- written comments. So, I just want to touch on, kind of, a few general points.

I think the EIR is deficient in a number of areas. I think one of the biggest deficiencies is it seems to -- it's missed the impacts of the Metro project that will bring the Subway to the Sea down Wilshire Boulevard that's supposed to begin construction in January -- this January, which is going to impact traffic in Westwood incredibly. It's going to have big impacts on UCLA because it will reduce Wilshire to two lanes through Westwood, which is going to be a nightmare. You know, right now, you have two lanes turning right on Westwood Boulevard -- Westwood, Galey, and Veteran. And that -- I don't know where all those cars are going to go. So, that's an issue. I don't feel you've appropriately analyzed all of the alternatives.

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I think one of the things I did in considering this whole issue is I went through the UC website, and I compared the density of UCLA with the density of the other nine campuses. UCLA is nearly four times as dense, students per acre, as any of the other -- the average of the other nine campuses. So, when you talk about -- you know, whoever talked about the UCs -- we don't have any control; I think the regents do have control in how they apportion students among nine, ten campuses, instead of putting such a large proportion of them on UCLA, which is the smallest lot area. 29

A lot of the decisions -- you know, someone had spoken about the stipulated agreement. Our neighborhood does have a stipulated agreement -- a settlement agreement with UCLA that does provide that the western side of the campus is, more or less, preserved. It's open space for benign uses. And that is actually a good idea because in the last however many years, decades, UCLA has become a far more dense campus than it ever was. 30

TRACY DUDMAN: One minute.

TERRY TEGNAZIAN: Way less than -- way less open space than it ever had.

We're certainly in favor of student housing. I don't think anyone is against student housing. I understand everyone's concern about the affordability of housing. I think UCLA, and maybe the regents, have made poor decisions. For example, in the way they've used land on campus: Building this conference center, building different athletic facilities, instead of prioritizing housing. If housing is such an issue, then it should be a very high priority for everybody. 31

I just want to also weigh in on the UNEX building. I think 20 stories is not a good idea in the Village, you know, adjacent to, really, a very historic area. Maybe if you were building that on the Wilshire corridor where there are high rises, it would make more sense. And we will be filing written comments. 32

TRACY DUDMAN: Parshan -- I'm sorry, I can't read your last name.

JOHN HEIDT: Hi. I'm John Heidt, and I'm a UCLA grad in economics, of which I'm very proud; a 35-year resident of Westwood; chairman of the board of the Westwood United Methodist Church; commercial and residential real estate owner in Westwood; vice chair of the 33

Community Council; serve on the board of housing committee; I'm on the board of the Westwood Homeowners Association; and I serve on the board of the Westwood Business Improvement District. That's me.

PARTICIPANT: Your time is up.

JOHN HEIDT: I like the idea of subsidized housing for students. I'm not worried about rental use in Westwood for the private sector, and I am a landlord. My concern is purely environmental. I worry about the aesthetic appeal of Westwood Village from the vantage point of Wilshire in particular. And when you look north, towards the extension building, you see prominently the Fox Tower, which is an icon of the Village. If you look at the rendering with this enormous 202-foot tower, it's two feet taller, by the way, than the building, which maybe many of you know as the Douglas Emmett building. It's that building that was spot-zoned and built in the Village, that huge high rise. Now, let's say you have another huge high rise on the other side, which will be even bigger. So, the character of the Village is my main concern.

I'd like to propose the building on that UNEX site be no

33 cont.

higher than the current extension building. Again, if you're on Wilshire Boulevard and you look at the extension building, you can see the outline of the Santa Monica Mountains above it. You won't be able to see the Santa Monica Mountains above a 202-foot high rise tower. 33 cont.

I think it's probably a good idea to have a few parking spaces, if nothing else, for management and services. And there will be a few students that have cars, regardless of Uber and the subway. 34

So, I'd just like to point out that I think that the 6,900 beds that you proposed is a great idea, but I'd like the building on the UNEX site not to be higher than the current building. And we can shift -- or UCLA can shift the beds that they won't be able to build in a 350,000, 202-foot-high tower in other properties that they have identified. Thank you. 35

TRACY DUDMAN: Robert Eoelstein is next.

PARSHAN KHOSRAIR: Hello, everybody. My name is Parshan Khosrair. I'm with the UCLA Graduate Student Association. I have a couple things that I want to talk 36

about today.

First of all, I've been involved -- you know, in the loop on this project for the past several months, at least since March. I've launched multiple regents meetings, made comments -- public comments at these. And so, this idea that there hasn't been enough avenues for folks to participate and air their grievances, that's just not true because I know firsthand my comments were heard and my comments were done. So, I commend UCLA for doing that. And I think that it's very important to know that there were several opportunities for folks to be engaged with this process. And I can also tell you, from having been engaged with that process, this is the most efficient and cheapest way that this project could be done. So, I want to believe, and I know in my heart that a lot of people here do want to see more student housing. And I commend folks who have spoken up about that. But we can't have that conversation without also thinking about the cost of these houses. So, I made a very specific ask at the Westwood Community Council meeting last week, and I asked that question of would folks want to push for these sites to be moved, even if that means the price of those housing projects would be more, which means

36 cont.

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directly that our rents, as students, would increase. And folks were very specific about that. Some yelled and said, "Yes, we want it moved. We don't care." So, that is a very important -- you know, that tells us a message; right?

As a graduate student, also, I lived in this area and had to move around -- and I had to move around, but more -- you know, affordability is just as important as the number of houses we have. And we can't move this project because it can't get any more expensive than it already is. And so, that is -- I really want you all to think about that when you think about the comments that you give. Thank you. 36 cont.

And then, Joshua Avila is next.

ROBERT EOELSTEIN: Hi. I'm Robert Eoelstein. I have lived in Westwood Hills a long time. I grew up there. I've been fortunate enough to be able to buy a house and move back there.

I think what's troubling to me is that there was an agreement with UCLA and the homeowners, and UCLA is pulling against and violating that agreement. They're 37

going back on their word not to build. They haven't really proven that there's a change in circumstance, which is what they said they needed to do in that agreement.

37 cont.

The desire to have more housing -- and I sympathize with the students who are going to be here for four to six years to want to have more housing, but that's a desire, not a need. This was designed as --

PARTICIPANT: Where should they live?

ROBERT EOELSTEIN: I'm sorry?

PARTICIPANT: Where should they live?

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PARTICIPANT: Well, it was designed as a commuter campus. Okay. They also haven't contemplated the amount of traffic that's involved with the Metro. There's going to be a tremendous amount of traffic going on Galey, all through the Village. Getting the amount of commuters that come and just work on the UCLA campus alone is -- there's a lot of commuters that do that, and traffic has gotten worse and worse over the years.

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And then, for the record, I respectfully disagree with one of my neighborhoods that said they wanted public access there on Veteran. I have small kids. I don't really need a playground near a college dorm. And, you know, my kids are going to grow up, and I don't really think that that's beneficial to our neighborhood. 40

TRACY DUDMAN: Chloe Pan will be next.

JOSHUA AVILA: Hello. Hi. My name is Joshua Avila. I am an incoming first-year student here at UCLA. I just want to say thank you for giving me the opportunity to speak today about this. I've only -- I've lived on campus for about eight weeks now, and I'd like to say it's amazing. I want to speak about my experiences, though, in these eight weeks, and particularly how it applies to this housing plan. 41

So, I've been staying in the De Neve Holly building, which is, as I understand, one of the newer buildings here, and within the first two weeks, I contracted a cold. And what was discovered was the building was infested with mold. And so, not only me, but students across all 10 floors of that building were infested -- had contracted colds and coughs because of the mold.

So, this was my welcome into the life of contractual mold. And it was because -- not because of, you know, any form of deficiency, but because there are so many students that are packed in there. I was part of the FSB program, and they packed over 300 students in a building that was intended for less. And so, coming from this experience, I really don't want to see any other students go through this, having to go through a cold and sinus condition for over eight weeks. And as far as I know -- that's why I'm speaking here today. And so, I understand that these housing plans, if there's going to be any form of ability to create more housing for students, and not only that, affordable housing. Yeah, it's been said that it's a desire, but when you're paying, you know, almost $40,000 in student debt a day, we really try and pay as much as we can. So, I just hope that, like, it can be heard today that the students really need this housing, and we need more space so that, you know, if they don't have not only affordable access to care issues, but also health, so that we don't get sick, having to be compacted like animals inside super small spaces. So, thank you for letting me speak today. And go Bruins.

41 cont.

TRACY DUDMAN: Nicolas Riani.

CHLOE PAN: Good evening, everyone. My name is Chloe Pan, and I'm here on a couple different capacities today. The first is that I serve as the undergraduate external vice president for our 30,000 undergraduate students; I'm also a resident assistant with UCLA housing, and I'm also here today as a low-income student who is the first person in my family to attend college in the United States.

So, I've heard a couple things today that really concerned me. And the first is this idea that housing is more of a desire than a need.

I grew up with a mother who lived in and out of McDonald's because we couldn't always afford to stay at the place that we were at. So, when you talk about wanting more housing because it's something that you just want as opposed to an actual need, that, to me, is extremely concerning. It is a privilege to be more concerned about the aesthetics of Westwood than it is to be concerned about the functionality of the buildings. And it is a privilege to be more concerned about the views of the Westwood Hills than it is to have to look for housing and worry about whether or not you're going to have a bed to sleep in for the next day. We have

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over 30 students who are here today because they're not just concerned for themselves, but they're concerned for the thousands of incoming Bruins who will be coming to our school over the course of the next decade.

Something else I also want to point out is the fact that someone mentioned that UCLA was originally constructed to be a commuter campus. And as much as I hate to draw parallels to the current national state of our country, our country was also originally created for predominately white men. So, when you talk about the origins of a place and trying to make it more accessible for new communities, we need to think about the fact that a third of the students coming to UCLA are first-generation students. UCLA also has one of the highest percentages of students who receive Pell Grants in the nation. So, when we think about students of color and low-income students who are coming in who absolutely need affordable housing, they don't have that luxury of thinking about or worrying about whether or not they have great views of Westwood.

And something else to consider is that we, too, are Westwood. Students make up over half of the population of the Westwood community. And so, when we talk about

42 cont.

Westwood as if, somehow, it doesn't include students, and it's only about property owners, that's problematic because you're forgetting half of the people -- more than half of the people who make up your community. Thank you. 42 cont.

TRACY DUDMAN: Isaiah Rutledge is next.

NICOLAS RIANI: Hi, everyone. My name is Nicolas Riani. I'm a first-year student at UCLA. Just moved in on Thursday. And I was informed yesterday of this meeting by Chloe and my floor-mate Alex. And I just want to say that I think it is really a need for students to have affordable housing. That students have to deal with student debt when they graduate. You know, some people are working to pay for tuition or housing. You know, some students are already dealing with classes and extracurricular activities and jobs and stuff. And so, having to commute to campus, you know, is an additional, you know, time that it takes. And so, it's important to have housing that's on or near campus. And it's important that we're not, like, too packed in and overcrowded. So, I just want to express the need for more housing. And I understand, you know, concerns about parking or views that are decreasing the property 43

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values, but I do really think that it's important to build affordable housing, and I think that's what this project does. All right. Thank you. 43 cont.

TRACY DUDMAN: Gabrielle Gorman.

GABRIELLE GORMAN: I'm going to yield.

TRACY DUDMAN: Okay. Emily Earnest is next, then.

ISAIAH RUTLEDGE: Good evening, everyone. My name is Isaiah Rutledge. I am a second-year student at UCLA. It's also my second year living on the hill. I am also an out-of-state student. So, it's really quite expensive for me to be attending UCLA and to have the extra burden of having high costs. If I want to move off campus, it would be a burden that would take away from my educational purposes of being at UCLA. And at the end of the day, I'm here to get an education and not worry where I'm going to be ending up sleeping at night. 44

So, I want to echo what Chloe said, that it is a privilege to worry about the aesthetics, rather than worrying about whether people are able to afford, or even be able to decide between places to live.

Already, we have a huge -- last year, we had an increase in the number of students we accepted to the university. Therefore, increasing the triples that are available on campus. The idea that we take the extension building and keep it where it is and just allocate those buildings -- or the beds to whatever other ways we want to do it, is kind of an absurd thing to think, considering there will be more students coming in the future. At the same time, that would also increase the prices of the rents because less supply equals higher costs. So, it's just some basic economics just to keep in mind. And at the end of the day, we're just asking for affordable housing. We're just students and, you know, we respect everything that our parents and everyone has put into our lives. And we're just trying to go to school, get an education, and give back as much as we can. And the less worry we have dealing with our housing, or the cost of it, will just make it easier for us to do what we want and make this country great. So, thank you. 44 cont.

TRACY DUDMAN: Elaine Huang.

EMILY EARNEST: Hello, Westwood, neighborhood council, Westwood property owners, and fellow UCLA students. My 45

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name is Emily Earnest, and I am a first-year at UCLA. I would like to bring to your attention a school who has an ongoing housing crisis: NYU. In 2015, the available housing was so limited that students had no other option but to stay in hotels that charged $300 per night. Most young people and their families cannot afford this price to attend college, especially if they are not local to Los Angeles.

This is not the future I want young Bruins to face; this is not the future they deserve. Let NYU be an example of how not to provide for their students. Thank you.

45 cont.

TRACY DUDMAN: Alexander Yee.

ELAINE HUANG: Hi, my name is Elaine Huang, and I am a first-year here at UCLA. So, my credentials aren't a list long, and I can't give you the history of what it's like living in Westwood, but I can tell you that as a first-year, I know that having sustainable living and being able to know that being accepted into this school means that I will have housing is not just a desire, it's a need. And when it comes to aesthetics, that's the real desire. And when I come here today, it's not necessarily because I want to selfishly push for UCLA to

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have dormitories on the great Westwood Village, but it's also because we've shown examples of how we're willing to also build on Lot 15, and we're willing to take into consideration some of what you want. However, we have to also look at just because that it might ruin the view, it doesn't mean, necessarily, that we don't build housing. And if you're really worried about the environment, then think about how UCLA students have to go further to find apartments further away from the campus, and they commute, which also contributes to not only the pollution, but, also, L.A. traffic. So, when you're really worrying about the environment, perhaps you should take a look at having apartments closer to campus.

46 cont.

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And, last but not least, a previous student has come up here and told us about NYU. Well, let us look at an example even closer, at UC Irvine, and how this year, the administration admitted more people than their housing can actually hold. We don't want UCLA to be UCI part two. Our prestige is something that we should hold on to, and this school's administration is something that needs to be taken care of and needs to take responsibility for the students it admits. So, I don't want a decade later for students to come into UCLA

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and not be able to have a place that they can stay. That's the basic promise that UCLA can promise for its students. Thank you. 48 cont.

TRACY DUDMAN: Philip Gabriel.

ALEXANDER YEE: All right. Hello. I'm Alex Yee. I'm a second-year student. And I'm not going to have an organizational flow to this; it's just going to be a long, rambling rant of about 15 points rushed into two-and-a-half minutes.

All right. So, back in 1984, whenever my dad graduated, he lived -- he went to GW. He paid thousands of dollars less for a double that was twice the size of what we're getting right now. Walk into Dykstra; walk into Rieber. Look at the size of those rooms and tell me that three people should live there. I dare you. 49

Students are living in cars, sleeping in Powell Library, charged outrageous prices for housing in the Westwood area. It cost me -- I paid with four other guys into a tiny apartment for the summer, $3,600 a month for an apartment with a broken disposal system and sinks that didn't work.

UCLA and everyone here that doesn't want this project, I hear people complaining that we're -- our students are destroying the Westwood economy -- or that we're destroying Westwood. We are the Westwood economy. We're half of -- we're half of the population here. We spend money here, we live here, we research here, we learn here, and we are what makes Westwood great.

Now, I've got a couple of points regarding some of the other things that were said here.

Okay. So, the fact that there's going to be a building on Le Conte that's 20 stories; it ruins the aesthetic of the neighborhood. I don't care about the aesthetics when my friends are sleeping in a car or in a park at 2:00 in the morning. I really just can't get myself to care. And if you want -- okay. I heard something about the parking problem. Parking is a problem because this is becoming a commuter campus. If you give students -- if you give undergraduate and graduate students a way to walk to school, they don't have to drive here 15 miles every day and find a place to park their car. If you want to see the Fox Tower, go to the Fox Tower. It's right there. I don't care if you can't see it out of your apartment. It's right there. Walk to it. It's

49 cont.

a block away. Get an Uber.

TRACY DUDMAN: One minute left.

ALEXANDER YEE: All right. The intrusion of Lot 15 towers on Veteran. Again, the aesthetic of this neighborhood does not matter as much as finding students a place to live. There are people that pay $40,000 a year to go here and live on the streets.

Let's see. We don't have time to consider 15 other proposals after we've already considered 15 other proposals. And the fact that there are people who are still stonewalling this project because there's one building on Le Conte, when we've already built, what, four on campus. To me, that just -- that doesn't show me that you -- that you just want to fix the problem; that shows me that you're trying to stonewall.

Perfect is the enemy of the good. And I'm here today to say that this plan is going to be perfect. We're going to experience some growing pains, and it's going to suck sometimes, but homeless students is a much bigger priority than whether you can see the Fox Tower.

49 cont.

TRACY DUDMAN: Lisa Chapman.

PHILIP GABRIEL: Hi. My name is Philip Gabriel. Let's get one thing really perfectly straight. UCLA in a recent national -- is the number one public school -- number two public school in the nation, right after all the --

PARTICIPANT: Number one.

PHILIP GABRIEL: Right after -- well, one or two. I think it was Cal and UCLA.

PARTICIPANT: Number one.

PHILIP GABRIEL: Okay. The point is, they were -- right after the private colleges, they were the number one or the number two.

We have a level-one trauma center here; the best in the country. UCLA, for the past five years, has always been ranked three, four, or five for the best hospitals in the country, which basically means the world. That's why my family settled here in 1963, to be next to this university and to be next to the hospital.

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I am a merchant in the Village. I love the students. The students drive my business. They pay for my daughter's college education. Okay. So, don't get me wrong. I love UCLA; I love the students. We're going to be watching the -- I'm a Cougar. We're going to beat USC this weekend for you guys. Okay?

So, here's the thing: This building here was initially not the spot for Luskin Center. They wanted to build it on Hilgard. And I kept telling people, "Build it here; build it here." Everyone thought I was nuts. Finally, they -- here we are, finally. Someone at UCLA finally said, "Okay, this is a great spot." There are other spots on campus. Right next to the architecture building where the admissions building is, there's two open plazas there. Why not put housing there? What about between the Powell Library and the other building next to it? There's a huge spot there. Why not put housing there? I haven't heard anything about those spots. There are other solutions here. If we can -- if UCLA would get together with the community and sit down with us instead of telling us what to do, and we could work something out. I really believe that if we got together in a room, that we could figure this out.

50 cont.

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TRACY DUDMAN: One minute.

PHILIP GABRIEL: So, I just want to close by saying the other -- another option is that UCLA could work something out with the city -- is Jasmine still here? She's not here. But I'm a merchant in the Village, and I have my property. I have a, basically, one-and-a-half story building. If I could build studio apartments on the second floor and third floor of my building, I would do that, but I can't because I can't provide parking. So, if we could somehow -- UCLA can get together with the city and let merchants, let property owners in the Village build second stories if they dedicate it to studio apartments at whatever rate UCLA is making their students pay on campus, I could build 10 -- I could probably build 10 studio apartments above my store. And if I could have three stories, I could probably build 15 studio apartments. Okay. So, there are other options here that we haven't thought of. So, let's get together as a community and figure this out. Thank you. 51

TRACY DUDMAN: Jonathan Wisner.

LISA CHAPMAN: Hi, everyone. My name is Lisa Chapman, and I have lived in Westwood for 31 years, and I've been 52

on staff at UCLA for 31 years. And this community is near and dear to my heart in every way possible. I sent my kids to school here at the local public schools and shop here, live here, play here. All of that. I'm also very sensitive to student housing needs, as, you know, my last daughter is now back East at college, and I'm paying out-of-state tuition for that. So, I totally get what you guys are saying; I realize how important it is. I also serve as president of the Westwood Neighborhood Council, and I came here to, sort of, read our motion that we passed earlier this month when this was brought before us for us to either approve or disapprove. Many of the students who are here were also at that meeting as well. We started a student engagement committee -- I don't know if you know that -- through the Neighborhood Council to engage more closely with students here at UCLA. We think it's important.

Needless to say -- I won't read this whole boring motion to you because there's no need with everything that's been said previously. But suffice it to say that we don't think this is the perfect place to place this tall of a building. And we have identified, as has already been brought up, that there are other places on campus to put these buildings, or multiple tall buildings such

52 cont.

as this, where you won't have to go through all of this. If it's built on campus, you can do what you want. And I have to take issue a little bit with some of the students' comments that they drive the Westwood economy and that they are half of the population here, and other things that have been said. We're all one community. We all have to live together here. We all have to compromise in some respects; we all have to support each other. And I don't see a lot of that going on lately. And I think it's really important for us all to remember that that is very, very important here. 52 cont.

TRACY DUDMAN: One minute.

LISA CHAPMAN: Other than that, I just want to, kind of, just touch upon what Terry Tegnazian said about the UC Regents making these decisions about housing and enrollments compared to other campuses. You know, you can't emphasize this enough that forward-thinking is what the regents need to do about the finite space that UCLA has. It needs to be thought about. Thanks. 53

TRACY DUDMAN: Shahamah Tarig.

JONATHAN WISNER: Hi. Good evening. It's evening now. 54

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My name is Jonathan Wisner. I'm an incoming first-year student here at UCLA, and I would just like to start by saying that Westwood is my home. I come from Cedar Rapids, Iowa, but --

PARTICIPANT: Woo-hoo.

JONATHAN WISNER: Hey. When I was a freshman in high school, my father, who was the breadwinner of my family, passed away. So, I lived -- my mother has sold our house, as we could no longer afford it. I have moved, and I have lost my childhood home; I have lost my family. I am thousands of miles away from those that I love. This is my home. This is the place that I live; this is the place that I come to every day and every night.

So, the first thing that I'd like to say is that I hear a lot of talk about aesthetics. But I really, truly think that that point is kind of invalid, as aesthetics really should not be a problem. UCLA is not an eyesore in any way, and I would, in fact, go to say that UCLA is a gem in this community. I don't know if you've been on campus, or if you see -- you've probably looked at these buildings, but they're going to be gorgeous. It is

54 cont.

going to be fantastic. UCLA is known for excellence, and I don't see why that would change in this at all. So, if we really are one community, I don't understand why we are going to divide and ignore the enormous population that lives here by alienating them and pushing them out, when we all deserve the same right to be here.

A simple search can show you that both UCLA and Westwood Village were built around just about the same time. I can argue that UCLA has truly helped deeply to make Westwood Village what it is today. There is a lot of history in that community. But the thing is is that the history of UCLA matters, too. In fact, we are writing the history of this prestigious organization and country right now. As the future of this country and this neighborhood -- the students -- I can tell you that supporting them in this very needed way is the correct side of history to be on. 54 cont.

TRACY DUDMAN: One.

JONATHAN WISNER: UCLA and its students are the future of Westwood and the world. And instead of calling these students an intrusion, recognize that UCLA is the

backbone of this community and is the backbone of the future of this nation. And this community should be proud to house this historic and prestigious institution, but it must also be proud of the way that it recognizes the flaws that it has and works for the benefit of the student. Westwood must be proud of the way that the number one public university changes to create the next generation of optimists.
Go Bruins. Thank you.

54 cont.

TRACY DUDMAN: Garrett Dahn.

SHAHAMAH TARIG: Good evening, everybody. My name is Shahamah Tarig, and I am an international freshman student at UCLA.

When I came to UCLA, they guaranteed me three years of housing. I am a 16-hour flight away from home, and my parents would not have sent me here if I did not have housing. They know that I can live in UCLA, which is why. But one of my friends said that he pays $40,000 a year. I am paying $62,000 a year, and I am still living in triple occupancy. So, to have housing is not a desire; it is very much a need for us students.

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The fact that we say that we are part of Westwood is not to say that we are only Westwood. We want to work with you; we want you to support us and, together, work out a plan. Because I have heard that students are the future for the country and for the area. So, if we have to worry about how to live, where to sleep, if we can come here and study -- because my parents don't know if I will have housing next year. That's not how it should be. We need to be guaranteed that we have housing; we can live here. And it's not only an international student thing. I feel -- I know many of -- I know many of my people from UCLA, my students, like the students with me, who are from California and still using housing on campus because they cannot commute. So, whether it's out-of-state, in-state, international, we all need housing. It is a necessity.

And just to wrap up and be clear: All of us students sitting here, we were not forced to come here. We believe in this issue. We are voluntarily here to support the housing. No one invited us and no one forced us to come here. Thank you.

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TRACY DUDMAN: Emilio Balingit.

GARRETT R. DAHN: Hi, everybody. My name is Garrett Dahn. I am a first-year student at UCLA. I'm originally from Columbus, Ohio. And somebody a little bit earlier mentioned the regents, perhaps, like, shuffling around students, seeing that UCLA is, by far, the most densely-populated UC school. But I would like to -- I came to UCLA for a reason; that there is a promise in UCLA. It's just a fine institution that you all have in your backyards. And I know you know that. But I'm at UCLA, and not Merced, for a reason. I think it's a beautiful campus, and I believe that each of us students here believe in it as well. And, of course, we've been talking a lot about aesthetics this evening. 56
And I think that, like, it is easy to imagine that the character of Westwood -- and this is coming from somebody who's from Columbus, and not Westwood -- I understand that -- but the character of Westwood, perhaps, lies somewhat in the Fox Tower and in the rich history of this beautiful community. But I promise you that the character of Westwood, at least for the coming decades, is in the students and in the fine institution that exists within it. And I think that the true character of the Village is at stake if affordable housing isn't available for its students.
Yeah. Thanks. Go Bruins.

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TRACY DUDMAN: Gabe Rose.

EMILIO BALINGIT: Hello, everybody. My name is Emilio Balingit. I'm a property renter; not here, but in Sawtelle. And I'm also a grad student here, second year. Last year, when I was looking for housing around UCLA, there wasn't really anything under, like, $1,200. I'm 28, and I wanted my own bedroom. And so, I commuted an hour and a half on the bus each way from Koreatown, which was the only place I could find affordable housing. So, suffice it to say, I'm a big supporter of this project. I think guaranteeing that students' housing -- and undergrad students -- another year of housing is really important to making sure that as the university grows, the students aren't overly-burdened by hour-and-a-half commutes, or, even worse, being homeless or sleeping in their cars. So, we really need this housing. And, I mean, it's been said a lot, but housing is not a desire. Your view of the Santa Monica Mountains, that's a desire. Housing is a need. We need a roof over our heads to study so that we can keep making this place what it is: A great university. 57

And now, I'll say a couple specifics about the 20-story tower. You know, I know some people wanted parking with 58

that, but if you want parking, all that's going to happen is people are going to bring cars, and there's going to be traffic. So, you know, if we just build that tower, and people can walk to school, they don't need their cars. And so, yeah, go Bruins. 58 cont.

TRACY DUDMAN: Arielle Yael.

GABE ROSE: Hi. Good evening, everyone. My name is Gabe, a proud alum of UCLA, 2008, and renter nearby, and a member of an organization called Abundant Housing LA that advocates for more housing to help bring down rents for working people and young people and all renters across the city.

First of all, we just really want to commend all the students that came out here today. It's amazing to see so many students and so many first-year students. You-all have been on campus for, like, a week, and you-all are getting involved in your little community and activism around UCLA and student issues, which is amazing. So, I just really want to recognize that. And I also just want to recognize UCLA for putting this project forward and for really actually taking bold action to address what really is a crisis for students 59

here in Westwood and just renters all across the city. Everyone who rents in L.A. knows that those of us who aren't super wealthy and don't own homes already are in a bad spot economically. A huge portion of the city is spending more than half of its income on rent, and it's a huge crisis on unsuspecting students and non-students alike. And I just think it's important to remember what UCLA -- like, what the purpose of UCLA is. It's the best public university in the country and, probably, the world. It's an amazing economic engine for all of us. For everyone that lives in this region, that lives in this state and lives in this country, we all benefit economically from the economic engine that UCLA is. And it's one of the best schools in the country, if not the best at helping low-income and working-class kids make it into the middle class. So, we should want more students at UCLA. It's a beautiful, amazing place. It's a place that changes lives. It's a place that changed my life, and it's continuing to change tens of thousands of young people's lives, and we want more people here. And if we have them here, they need a place to live. And that may come with some down sides and some externalities, and views might be lost, and there might be some other challenges that come with that: Parking and traffic, and otherwise. And I

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recognize that fact, but at the end of the day, I think those concerns have to be far outweighed by the needs of students and the needs of our city and the needs of this amazing university. So, thank you very much. 59 cont.

TRACY DUDMAN: Nick Burns.

ARIELLE YAEL MOKHTARZADEH: Hi, everyone. My name is Arielle Yael Mokhtarzadeh. I'm a fourth-year communications major here at UCLA, double minoring in public affairs and liberal studies, and I also have the privilege of serving as our undergraduate student association council president, serving 30,873 undergraduate students.

I, first and foremost, also want to echo and recognize the two dozen first-year students, who haven't even attended classes yet, made it out to speak tonight. I am so hopeful about the future of this university and the student leadership here. I want to thank Vice Chancellor Beck and Associate Vice Chancellor Angelis for presenting this proposal at our undergraduate student association council meeting two weeks ago, where we had the opportunity to engage with it. Having attended the Westwood Neighborhood Council 60

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meetings and having those discussions, I want to appreciate the parking criticism. It's well taken and an issue that students are concerned about as well. But the reality is -- and not to hammer the point home -- but no one desires housing; it's a need; right? We need housing that's affordable; we need housing that's accessible; we need housing that can address the needs of students not just of today or tomorrow, but the students -- and not just the students of 2020 either, but 2030, 2040, 2050. The reality is that once these buildings are built, the space is that much more scarce, and the needs are not going to change. In fact, it will probably become more complicated. So, let's think about that. And with that being said, I think the university needs to do more student engagement, not just about where these buildings are going and what they look like on the outside, but, also, what's happening on the inside. I think students need to be engaged in that process, and I think they will be.

There are also a few points that I want to address. There was a statement made that rent over the summer went down 20 percent. I can tell you my rent during the summer did not go down 20 percent. It actually increased. If you can tell me where the housing --

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where the rent went down is, I'd really appreciate it, and I can think of a few students who would appreciate it as well.

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With regard to the statement about space on campus and there being so much space on campus, we have students who are rehearsing for dance programs in parking lots into the wee hours of the night. They are taking in fumes that are detrimental to their health, but their passion for dance is so strong, they're doing it anyways.

TRACY DUDMAN: One minute.

ARIELLE YAEL MOKHTARZADEH: In addition to that, regarding the misuse of land, I think it's an interesting point. Ideally, I would have wished that rather than having this beautiful conference center, we'd have additional student housing. I think it's important that we're critical of the university in that way as well. I also want to say thank God we don't live in a society in which owning property says you have more of a right to have a voice at the table than not owning property.

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And lastly, I think it's really important -- and this is really addressed at the audience, rather than the university -- but at UCLA, we talk a lot about speaking across the areas of difference.

I chair a council of 14 students with very strong opinions, who are very passionate about a lot of different things. We don't always agree, but we never call each other idiots, we never laugh at each other, and we never snicker when people are making points and sharing their experiences. I heard a lot of that tonight, and it's really disappointing to me. And I am ashamed of it, to be honest with you. We all live in this neighborhood together; we all live in this community together, and it's about time we started acting more neighborly. 62

TRACY DUDMAN: Steve Sann.

NICK BURNS: Hi. My name is Nick Burns, and I live in West Los Angeles. And I moved to L.A. in 2014 to live with my wife, who was, at that time, just starting a medical residency at the Ronald Reagan Medical Center. And one of the first things that anybody notices when they move to Los Angeles from a different city is how 63

expensive it is to live here. And we were fortunate. I, you know, unlike many of my wife's colleagues at the time -- well, I should say my wife, unlike many of her colleagues, was married to somebody who had a job and was able to help, you know, support paying the rent in an already expensive neighborhood. Many of her colleagues didn't have that. They were, kind of, already drowning in medical school debt, and they need to find, you know, a place to stay and a place that's convenient enough that they can be working 80-hour shifts and on-call, kind of, like at all hours of the day. And these are the folks who are ultimately going to be fine; right? These are physicians who are going to be well into the upper middle class, and they're having trouble. And so, I can only imagine the strain on the undergraduate and graduate students at UCLA as a result of this housing crisis that we have in Los Angeles. And it's not just in Westwood; it's across the entire state. By many measures, UCLA is the most unaffordable city in the country. So, when I moved out here back in 2014, I got involved with the group that Gabe was also involved with: Abundant Housing LA. And what we do is we try to advocate for more housing by basically saying yes to more housing, by encouraging our neighbors to also say yes to more housing. And so, what

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we find in communities where we've just systematically underbuilt housing over the course of the past couple of decades -- because it wasn't necessarily because those communities would just say no outright to more housing, but we, I think, generally understand that people need a place to live. Too often, it was because people said, "Yes, but" ... "Yes, but this project is too tall"; "Yes, but this project doesn't have enough parking"; "Yes, but this project doesn't look like the other housing that I'm used to seeing in the neighborhood." And so, those incremental compromises add up over the course of decades that result in this situation that we find ourselves in. So, we find that the best answer to the housing crisis that we're in is when somebody comes and asks, "Do you want us to build more housing," that we say yes. Now, we don't say yes every time. If rents stabilize, units are being demolished for luxury housing. We don't say yes to that.

63 cont.

TRACY DUDMAN: One minute.

NICK BURNS: If four units of housing are being demolished to build a mansion, we don't say yes to that. But what are we doing here? Are we demolishing any rent-stabilized units? Are we ruining any material --

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are we having a materially negative impact on anybody's lifestyles? Are we adding more traffic as a result of, you know, increasing parking and increasing incentives to own motor vehicles? No, we're not. What we're doing is we're adding 6,900 units of housing and increasing the guarantee for undergraduate students for three to four years of housing; we're increasing the guarantee for housing for graduate students from one year to two years; and for transfer students, from one year to two years. That's a home run for us. So, we hope that all the students here, that all the neighbors here, can see it from that perspective, that if we want to dig our way out of the housing crisis, when we have a group that can put in the time, the resources, and the investment to propose a project like this that's a materially positive impact on thousands of our neighbors, that we get together and we say yes. 63 cont.

TRACY DUDMAN: Austin Cyr.

STEVE SANN: Good afternoon -- or good evening, UCLA Bruins and Westwood neighbors. My name is Steve Sann. I'm the chairman of Westwood Community Council. I'm a very proud double Bruin. An undergraduate in law school here. I've lived here for many, many years of my life. 64

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And my heart is in this community, as really is the heart of many of the folks who may not agree a hundred percent with me. But I want to assure you that we care and love and cherish this university, and we have supported it for decades. But support is not always unconditional. Just like love is not always unconditional, support is not always unconditional. And, respectfully, to some of the speakers who say we should say yes unconditionally, I have to tell you that is not the process; that is not what an EIR is about. An EIR is about exploring options and the impacts.

I have a lot to say. I will submit some written comments as well. I want to say that our community council has discussed this. And the most important takeaway that I want every student to hear, all those at USAC, of which I was the financial supports commissioner, and at GSA, I was the law school rep to the forum, and I was a graduate rep, so my heart is in Kerckhoff Hall.

I want you to hear that our council supports every single one of the 6,900 beds that UCLA is asking for. We're not asking for a reduction in one bed. That's the most important takeaway. We absolutely recognize the

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need for more housing. And I want to say very quickly, we acknowledge that UCLA is -- and no disrespect to the private owners -- but the best landlord for students. They do the best job; they provide the best housing; they have the number one food two years in a row and all the support services. We know that, and that's an unassailable fact. 64 cont.

Having said that, though, to those of you who say that history doesn't matter, that views don't matter, that preservation doesn't matter, I would just ask you, would you care if Royce Hall was torn down and replaced with a 20-story building? Would you care if somebody put a 20-story building right in the middle of the quad? Would you care about those things? Well, let me tell you, thankfully, your university administrators and your housing planners care. Because I want you to take a look at the very first drawing; the one that is closest to me. That's the proposal for the Drake Stadium site. And I hope you can see it, and, if not, go up and look. I want you to see what your own architects and planners did. They care enough that they literally removed the middle one-third of the building. Why? Because they want to preserve the iconic view of the campus when you are in Carnesale Commons or in Sproul Hall, so you can 65

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look out and see that incredible vista that we love so much: The twin towers of Royce, the Powell Library Rotunda, and Janss Steps. And that's exactly as they should have designed it. So, your own university planners, they care about views; they care about history. And I hope some of you that are even first-years, I think you will come to care about those things as well. They are important values. They are part of what makes UCLA this incredible place.

And what we are asking for, frankly, is that the university show the same respect for history and character and scale and views in the Village as they have shown they can do on the campus. And it is so easily accomplished. We support the 6,900 beds. We absolutely do not support 20 stories. It is massively out of character and out of scale. It will have a permanent, significant negative environmental impact on the view of the Village that has been there for 31 years; almost as long as Royce Hall. The Fox Theater is just two years younger than Royce. It has been a symbol of our Village, just like Royce Hall is the symbol of the campus. And just like I would fight viciously if somebody wanted to put a 20-story tower next to Royce Hall, I hope you will also understand why

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we don't want to see a 20-story, massive, bulky building that will obliterate the view that your parents will see when they drive to the campus and come into the Village for parents' day. We think there's a way to do that. And what we have supported is a simple redistribution. Fortunately, there are five sites. And the Warren Hall site has the ability. They're proposing 8- and 9-story buildings. They could easily go up to 10- or 11-story buildings, and it has no visual impact, and it doesn't reduce the project by one bed, or they can increase the beds at the Tom Bradley site at Strathmore, or they can increase among the Drake Stadium site.

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For the record, the want to be clear that the position of both the neighborhood council and the community council, we do not support the increase in any beds at the Lot 15 site because of the very important historic agreement that took place with our neighbors.

I have a lot more to say. I want to say this: We want to support this project. Michael Beck, we have immense respect for you and your team and Pete Angelis and Sue Santon. We want to work with you. We don't want to oppose this project. We don't want to see what happened 30-40 years ago, where litigation slowed your project

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up. We want to work with you, and we absolutely believe there's a path forward that will meet the needs and provide every single one of those 6,900 beds and, at the same time, preserve the values, the history, the character, and the scale of our Village, which is just as important as the history and the character and the scale of the campus. So, I want to echo those who talk about compromise; I want to echo those --

67 cont.

TRACY DUDMAN: It's time.

STEVE SANN: Thank you very much.

AUSTIN CYR: Hello. My name is Austin Cyr. I am a housing enthusiast, and a member of Abundant Housing Los Angeles as well. I spend a lot of time going to a lot of different community rooms listening to pros and cons of different projects, and the thing I hear commonly from all the opposition is generally that they feel like this specific space is being picked on. They have some really unique identity. And you do. And that's true, and that's real. But the housing crisis is a broad one here in Los Angeles County. From students, to middle class, to underprivileged, to homeless people. More housing is a good thing; it's a necessary thing.

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Aesthetics are important. It defines our history, and that helps drive us forward, but the people are our future. Neighborhood character is a very important thing, but that's not defined by the aesthetics. Neighborhood character is defined by the inhabitants of that space. And when you're considering plans to move forward, please don't trade our future for someone else's past. Thank you. 68 cont.

TRACY DUDMAN: So, I have exhausted my speaker list. Is there anybody who --

MICHAEL SKILES: You didn't call me, and I signed up. I was one of the first people who signed up.

TRACY DUDMAN: I'm sorry. Okay. So, I'm going to let Michael speak, since he did sign in. And I'm sorry if I skipped over you. And then, we'll continue. Sorry.

MICHAEL SKILES: Yeah. Thank you. I'm Michael Skiles, a philosophy Ph.D. student, and honored to start my second term as UCLA's grad student president, speaking on behalf of the 13,000 graduate and professional students, many of whom are in desperate need of housing. 69

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Unfortunately, even before this increase in enrollment that Governor Brown shoved down the UC's throats, there was a housing crisis on campus that needed to be resolved. Ph.D. students are getting kicked out of UCLA's housing halfway through their degrees. It happened to me. It's very, very disruptive. We're seeing undergrads kicked out after a few years as well. And these are the people who are lucky enough to get in university housing in the first place. Thousands of students are on the wait list each year, unable to even get one year of housing, and that doesn't even account for the countless students who don't even bother to sign up for housing because UCLA housing, frankly, right now is expensive. It's the only thing -- the only thing more expensive than living in UCLA housing in Westwood is living in the private market housing in Westwood. If you're trying to live in Weyburn, where grad students live, they charge you $18,000 a year. If you're a TA, making $28,000 a year, it's hard to make ends meet. But, you know, try to get a studio in Westwood; you're probably going to be paying $25,000. So, we need to do something. This is how bad things were before we got the increased enrollments. Now, that the increased enrollment is happening, it's a done deal. There's nothing we can do about it. If you really didn't want

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to see more students come in to Westwood, you really should have talked to Governor Brown when he was holding the UC's funding hostage. But since the students are coming, we have to figure out how to house them in the least destructive way possible. 69 cont.

Unfortunately, if we don't house them on campus, they're going to have to commute. And if they're going to commute, they're going to be bringing in cars, making traffic worse, and making parking worse. The best thing to do is to let UCLA become self-contained. Students, like me, who are able to live by campus, a lot of us don't get cars. And even those of us who do get cars, do you really think that if a student is able to live on campus, and that student would still bring a car for some reason, that that same student, if they're now suddenly forced to commute from further away, is not still going to have a car? They're more likely to have cars. The more -- the farther you make students live away from campus, the more cars they're going to be bringing in, the more they're going to be upsetting parking. 70

And, also, the UNEX site does not obscure any view. It's the backdrop for a view. Towers can be a beautiful 71

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backdrop to a view. Look no further than Paseo or Weyburn Phase II, as it's been called by some. It's a beautiful tower. UCLA has a great track record of making beautiful buildings. I'm sure this will be a great addition to the Village, and it'll also provide the businesses of Westwood the revenue they need from all these students eager to use the retail and restaurants right by where they'll be living. So, please support this project; our students need housing. 71 cont.

TRACY DUDMAN: All right. So, I think there are some people in the audience who have not had a chance to speak. So, do you want to come to the ...

MATT STAUFFER: I can stay here.

TRACY DUDMAN: Whatever you'd like to do.

MATT STAUFFER: Thank you for the time. My name is Matt Stauffer. I'm a resident of Los Angeles; I'm also a member of Abundant Housing. You saw some of my fellow members there. I wish I had gone sooner because all the good comments are taken. But I wanted to echo a lot of what's been said. I'm in support of the plan. And we desperately need more housing in the city. I'm a 72

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renter. And if students can't live on or near campus, they're going to be coming into my neighborhood, and competing with me, and driving up my rents. So, if for no other reason than my own selfish reasons, I want this project; I want more housing. 72 cont.

I don't want to echo a lot of what has already been said, but I will direct everyone to a great piece of the New York times, September 5th, "On the College Campus of the Future, Parking May Be a Relic." Things are changing. Driverless cars are coming sooner than we think. When I started college, I didn't have a car. And, actually, I went to UCLA's sister school, UC Davis. And when I lived on campus, I was told not to bring a car. I wasn't issued a parking permit at all, which didn't matter because I didn't have a car. But even the students who did have cars, they left them at home when they moved to campus. And none of the student housing on campus at Davis has parking, none of the academic buildings have parking, and it works. People walk; they ride bikes. There's a great bus system. So, I would encourage everyone to read that, and, sort of, imagine that as the future for UCLA. I would encourage the university to work with people like the gentleman -- he may have -- oh, no. I see him back there. The property 73

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owner who wants to build new housing without parking. Bless you, sir. You should join Abundant Housing LA. We need many more people like you. So, I would encourage the university to work with the city and property owners like that who want to be part of the solution. And anybody who is, you know, frustrated with traffic, you know, if you're in traffic, that means you are traffic. It's cars on the road. And I know that UCLA may have been designed as a commuter school, but when you're stuck on Wilshire or you're stuck on the 10, you're stuck behind commuters. So, if we could turn UCLA into a residential campus, and you can live on campus and walk to class, then you're not going to be driving on Wilshire or the 10, or anywhere else. So, I think that's a win-win all the way around. Thanks. 73 cont.

TRACY DUDMAN: So, I have someone here.

JOHN SHUHADA: I just want UCLA's EIR to consider the possibility of an alternative solution to affordable housing in the Westwood area. The solution that they proposed, of course, is one that's funded with taxpayer money and with tuition fees. If students think that this is going to be a free ride, you're mistaken. This will cost you money in the long-run. One of the things 74

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that should be considered, however, as a legitimate alternative solution that the EIRs must consider is the possibility of having UCLA developing a partnership with the private community. A partial partnership and partial solution to this whole situation could be a partnership with private property owners in the Westwood area to lift some of the -- and Mr. Gabriel spoke about it -- lift some of the planning and zoning restrictions that have been so onerous and have prevented private property owners from building the kind of affordable housing that could serve at least some of the students in this area. So, I would hope that UCLA would consider this as an alternative, developing a partnership, and going before the city. UCLA has considerable clout in this city. They can use it to convince the City of Los Angeles to lift some of these restrictions, and I think you would solve a lot of your problems if you did that. And you could have student housing as well on campus that's funded by tax payers and tuition fees.

74 cont.

TRACY DUDMAN: What's your name, sir.

JOHN SHUHADA: John Shuhada [phonetic].

TRACY DUDMAN: And just to let everybody know that this

meeting has been for two hours, and it is going to adjourn at 7:00, so I want to get one more speaker in here.

PARTICIPANT: So, I'm a Westwood Hills property owner. I've lived in Westwood Hills for 25 years.

To the students, I want to say that we're not opposed to housing. I think there's been a huge miscommunication. Our homeowners association is concerned about the building on Lot 15, which we have entered into an agreement back in the 1980s, that this should be a benign-use area. Our homeowners association is merely asking that UCLA look at all of the other open space that it has, and use campus property to put those -- to build those dorms. That is our position. We're not saying don't build, we're saying build appropriately; build responsibly. Look at your land; look at how you've used -- look at some of the projects that you've put up that didn't take student needs into account, that didn't take student housing into account. And now, going forward, please be thoughtful in how you use your land. That's our position. So, you have a lot of impassioned speakers, and we've heard you, and we agree you need housing, but build responsibly and build

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appropriately. That's our goal. Thank you.

PARTICIPANT: One quick point. First of all, I want to point out that all of the neighbors were students at one time, too. Some of us had four to a room or at least three to a room. So, we know what you're talking about. So, you realize what's really happening when chastising Governor Brown for insisting there be more increased enrollment because there should be more in-state students -- California students, where you have 8,000 non-resident students, which I acknowledge are paying $61,000 a year in tuition, plus others. And that funds a lot of salaries that the state auditor, in his report -- and which is available online -- questioned. If you would phase out all the out-of-state students, 8,000, you wouldn't need the 6,900. And I know that I was okay, but we should have more from Nebraska. 76

Anyway, I want the students to be aware that that's where the problem is coming from, is that they're so greedy, looking for all that out-of-state -- the university is so greedy, looking for that out-of-state tuition, that they refuse to see what's going on. And we don't want to end up like NYU, where it's nothing but high-rise student housing around.

TRACY DUDMAN: We're going to wrap this up. So, 7 o'clock is the end of this period.

For those of you who have spoken or feel like you need to speak again, please put the comments that you need or want to say into writing and send them to me. If you do not have my contact information, I have some more business cards available to give to you. Because writing them down is exactly like speaking them here tonight. I understand that you actually have an audience in which to speak to, however, but anything that you have left to say or spiel that you have not had a chance to say, please put it in writing and send it to us. It gets treated exactly like all of your verbal comments here tonight that are being taken down word-for-word by the court reporter.

PARTICIPANT: There's five more minutes to your time.

TRACY DUDMAN: Well, I have 7:00.

PARTICIPANT: Do you have any other speakers who want to speak?

PARTICIPANT: Do you have anyone who can answer

questions?

TRACY DUDMAN: I have 7:00.

PARTICIPANT: I came all the way from downtown. May I talk for one minute?

Hi, everyone. I'm Joshua. I recently got appointed to be part of the Westwood Community Council. I don't want to repeat anything that's been said tonight. I'm sure there are plenty of passionate thoughts and comments on both sides. I just want to say that I sincerely hope there is no frivolous CEQA lawsuit here. I think that would be a shame if the university had to pay extra legal fees, and those fees got passed along to students. 77

Additionally, I know that the university has always been a great neighbor, and they'll likely, as part of any agreement, you know, lower the amount of units, and I just want to say that's a shame, and that will really hurt students long term. And, you know, you know who you are, and you know the people who might file a lawsuit, I sincerely hope that is not -- if you really you want to be a good neighbor, you won't, you know, increase costs, and making sure that we feel welcome

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here.

PARTICIPANT: I think you should expect lawsuits.

PARTICIPANT: That's why I said it.

PARTICIPANT: Well ...

PARTICIPANT: Thank you very much. I appreciate that.

TRACY DUDMAN: Okay. Everybody.

PARTICIPANT: Hold on one minute. Students, look what happened today. The regents are pitting you against us and the community. It is a --

PARTICIPANT: This is one community.

PARTICIPANT: It is a scandal that these regents have increased enrollment with a false promise to you of housing; it's a scandal that you are in triple occupancy; it's a scandal that there are -- 78

PARTICIPANT: You sound like Trump: "Build a wall; keep everyone out."

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PUBLIC HEARING

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PARTICIPANT: Excuse me -- that there are homeless students. That's a scandal because the greedy regents have increased enrollments without providing for housing.

Now, would a greedy hotel be allowed to take reservations without building the units? This is why this stipulated judgment of our group is so important because that has teeth that the regents must accept. And I unbelievable in what a lot of people have said here about finding a setting in which students, the community, homeowners, renters, and all others should come together. I, myself, am going to join Abundant Housing LA because we do have a need for affordable housing. But it's not by overbooking, the way the regents have done. That's the mistake. And I find common ground with many of you here. Thank you. 78 cont.

TRACY DUDMAN: Thank you all very much for being here. Please, come see me if you need my contact information to submit your comments.

(Whereupon the LRDP Amendment (2017) and Student Housing Projects Public Hearing was concluded at 7:00 p.m.)

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Responses to Public Hearing Comments

Following are responses to comment made at the public hearing held on September 26, 2017 at the UCLA Luskin Conference Center. Unless otherwise noted, these comments do not specifically question the content or conclusions of the Draft SEIR, and no response is required. Most of the comments received at the hearing were related to the merits of the proposed Project, or offer opinions about aspects of the proposed Project and potential impacts, and will be forwarded for consideration to the decision makers.

September 26, 2017

1. UCLA Capital Programs representative Ms. Tracy Dudman opened the public hearing with an introduction, background information on the CEQA process and the public hearing format, and an overview of the proposed LRDP Amendment (2017) and Student Housing Project. No response is required.

Ann Hayman, Westwood Property Owner

2. The comment is an introduction by the speaker, no response is required.

3. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, including aesthetic impacts and potential impacts to historic resources, and Topical Response 5, which addresses the purpose for not including parking at the proposed housing sites. Also refer to Section 2.2 of this Final SEIR, which discusses the current design for the proposed housing project at the UNEX site.

4. The speaker's suggestion to consider an alternative that involves replacement of the existing UNEX building with a residential building of similar height and subterranean parking, and reallocation of the remaining beds to the other sites (notably the Warren Hall site) is noted and will be forwarded for consideration to the decision makers. However, it should be noted Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives". The suggested alternative would not avoid or substantially lessen the significant and unavoidable impacts identified for the proposed Project, including those involving the proposed housing project at the UNEX site. Rather, it is likely that the construction impacts with the suggested alternative would be increased due to excavation and export of soil for subterranean parking, and there would be traffic impacts associated with the provision of parking at the site. As further discussed in Topical Response 5, by limiting the amount of parking at the proposed housing sites there is corresponding reduction in trip generation and vehicle miles traveled. Therefore, no further evaluation of this alternative is warranted or required. Please refer also to Response to Comment 6 of Letter 16, which also suggested an alternative to reallocate beds from the proposed building at the UNEX site to the proposed building at the Warren Hall site.

5. Please refer to Response to Comment 4 above regarding the suggested alternative, and Topical Response 4, which addresses the proposed housing project at the UNEX site, including compliance with City zoning requirements.

Alvin Milder, Westwood Resident

6. Please refer to Topical Response 3, of this Final SEIR, which addresses the Stipulated Agreement of Compromise and Order (Stipulated Agreement) between the Westwood Hills Property Owners Association (WHPOA) and The Regents of the University of California (Regents).

7. Contrary to the speaker's comment, there have been no commitments made to the proposed project and the proposed Project has not been segmented. With respect to the reference to bonds issued by the University of California (UC), for clarification, UC issued Limited Project Revenue Bonds (LPRBs) in the amount of approximately $860.4 million on September 19, 2017. These bonds were for 10 projects across the UC system. However, the LPRBs included only one project at the UCLA campus, approximately $4 million for parking. There were no bonds issued for the proposed housing project at the UNEX site, or any other proposed housing project being evaluated in the SEIR. The UC system has a construction delivery method called CM (Construction Manager) at Risk. If used, the CM at Risk method is initiated before project approval and limits the CM to pre-construction drawing review, with the intent that it informs better quality cost estimates and reduces change orders. Once a project is approved by the Regents or the Chancellor, the CM is hired and the project moves into construction drawings. Bids for CM at Risk contracts have been issued for the proposed housing projects at the Lot 15 and UNEX sites. However, these bids will not be accepted until after The Regents take action on the proposed Project, and only if the proposed Project is approved.

   With respect to "segmenting" or "piecemealing", the potential impacts of the proposed Long Range Development Plan (LRDP) Amendment (2017) and Student Housing Projects are thoroughly evaluated in the Draft SEIR. As required by Section 15126.2(a) of the State CEQA Guidelines, direct, indirect, short-term (construction-related), and long-term (operational) impacts are addressed for each of the proposed five on campus student housing projects. Potential cumulative impacts resulting from the proposed Project and previously approved projects on campus are addressed in the Draft SEIR, and mitigation measures and alternatives are identified to address project impacts. The five proposed housing projects are located at various locations on campus and would be constructed over an extended time frame (between 2018 and 2025). There would be various periods of time when construction activities would overlap (refer to Section 3.5.6, Construction Activities, of the Draft SEIR). The Draft SEIR comprehensively addresses potential impacts of overlapping construction activities and the combined impacts associated with operation of all five proposed housing projects. The housing projects are not related to, or otherwise dependent on, any other projects planned on campus, or that might occur in the future. It should also be noted that UCLA is not currently pursuing development of new classroom facilities, recreational facilities or new study spaces beyond that already approved or under construction, or being considered as part of the proposed Project. Therefore, the project is not "segmented" and the Draft SEIR has been prepared with a sufficient degree of analysis to provide decision makers with information that enables them to make a decision which intelligently takes account of environmental consequences for the entire project, as defined.

   As summarized in Section 1.5 of the Draft SEIR, even with implementation of project-specific mitigation measures, significant and unavoidable impacts would result from implementation of the proposed Project. Because unavoidable significant adverse impacts would result from the project, The Regents, as Lead Agency, must prepare a "Statement of Overriding Considerations" before it can approve the project. A Statement of Overriding Considerations states that the decision-making body has balanced the benefits of the

proposed project against its unavoidable significant environmental effects and has determined that the benefits of the project outweigh the adverse effects and, therefore, the adverse effects are considered to be acceptable.

8. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site including the height of the building. Additionally, please refer to Section 2.2 of this Final EIR, which addresses the current designs for the proposed housing projects at the Lot 15 and UNEX sites.

Tima Farmy, Westwood Property Owner

9. The speaker's opposition to the proposed housing project at the UNEX site is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 4, which addresses the proposed UNEX, including the traffic issues and emergency vehicle access to the Ronald Reagan UCLA Medical Center. Additionally, for clarification, each of the five proposed housing projects is located on the UCLA campus. Specifically, the UNEX site is within the Bridge zone, as identified in numerous University documents, including, but not limited to, Figure 3-2, Campus Map, of the Draft SEIR; in the March 2009 LRDP Amendment Final EIR, Figure 4.8-3; and on Figure 6, Bridge Zone Built Environment, of the 2002 Long Range Development Plan (LRDP).

10. As discussed in Section 1.3, Public Review Process, of this Final SEIR, as required by Section 15082(a) of the State CEQA Guidelines, UCLA (as lead agency) sent the Notice of Preparation (NOP) for the Draft SEIR to the State Office of Planning and Research (OPR) and responsible agencies to solicit input on the scope and content of the Draft SEIR. In addition to the CEQA-required NOP distribution to OPR and responsible agencies, UCLA sent the NOP (and scoping meeting notice) to other regional and local agencies, and fourteen organizations and individual community members that have previously requested such notice. The local organizations include, but are not limited, to homeowner and property owner associations and neighborhood and community councils. These organizations share information with their members, as deemed appropriate by each organization. Based on the commenter's interest, they will be included in the UCLA's distribution for future CEQA notices subject to public review. A Notice of Availability (NOA) for the Draft SEIR, which included the public hearing notice, was distributed to each agency, organization, and individual that received the NOP and anyone that provided a comment on the NOP. Further, the NOA and public hearing notice were published in the Daily Bruin. The public noticing for the proposed Project has been completed in compliance with CEQA requirements.

11. This comment does not does not question the content or conclusions of the current Draft SEIR, and no response is required. Further, CEQA does not require the inclusion of economic or social analysis in environmental documents. The focus of CEQA is on potential adverse impacts of the project on the physical environment. Accordingly, any economic or social effect by itself is not treated as a significant effect on the environment (State CEQA Guidelines, Section 15382).

12. Please refer to Topical Response 1, which addresses housing demand and affordability.

Paavo Monkkonen, Professor, UCLA Luskin School of Public Affairs

13. The comment is an introduction by the speaker, no response is required.

14. The commenter's support for the proposed Project because it is an urban infill project near campus and provides needed affordable student housing is noted and will be forwarded for consideration to the decision makers.

Stephen Hohde, Westwood Hills Property Owner

15. The potential aesthetic and noise impacts resulting from implementation of the proposed housing project at the Lot 15 site are addressed in Section 4.1 and 4.10 of the Draft SEIR, respectively. As identified, potential impacts would be less than significant for these topics. For clarification, the proposed structures at the Lot 15 site are not "towers", rather they are mid-rise structures. As further addressed in Section 2.2 of this Final SEIR, the currently proposed design for the structures at the Lot 15 site involves development of two 8-level buildings, compared to 8- and 10-level buildings addressed in the Draft SEIR.

16. Please refer to Topical Response 3, which addresses the Stipulated Agreement between the WHPOA and The Regents.

17. As identified in Response to Public Hearing Comment 7 above, the UC issued LPRBs in the amount of approximately $860.4 million on September 19, 2017. These bonds were for 10 projects across the UC system. However, the LPRBs included only one project at the UCLA campus, approximately $4 million for parking. There were no bonds issued for the currently proposed UCLA housing projects. Additionally, refer to Section 3.1, Background and Need for the Project, and the discussion of the Student Housing Master Plan 2016-2026 in Section 4.9, Land Use and Planning, which describe the University's ongoing planning efforts related to student housing.

18. Please refer to Table 1-1, Summary of Environmental Impacts, and Applicable Programs, Practices and Procedures (PPs) and Mitigation Measures (MMs) for the Proposed LRDP Amendment (2017) and Student Housing Project, which identifies the PPs and MMs from the March 2009 LRDP Amendment Final EIR and project-specific MMs that have been incorporated into the proposed Project, including at the Lot 15 site. Additionally, Section 4.9, Land Use and Planning, of the Draft SEIR addresses the compatibility of the proposed housing project with surrounding uses.

19. It appears the speaker is referring to the proposed high-rise structure at the UNEX site and the speaker's opinion about the Project will be forwarded for consideration to the decision makers. Please refer to Topical Response 4, which addresses the proposed housing project at the UNEX site, and Section 2.2 of this Final EIR which address the proposed current design for the structures at the UNEX site.

20. The speaker's opposition to the proposed Project is noted and will be forwarded for consideration to the decision makers. Please refer to Section 5.3.2, Alternative On-Campus Site or Sites, of the Draft SEIR, which addresses the site selection process for the proposed housing projects.

Alex Schwada (identified as Alex Schmader in the transcript), Attorney

21. The speaker identified various questions pertaining to the proposed Project and subsequently submitted these questions to UCLA. The questions and responses are provided in Section 2.3, Responses to Comment Letters Received, of this Final SEIR (refer to Comment Letter 17).

Amy Liu, Westwood Hills Property Owner

22. This speaker suggests that if UCLA is to proceed with the proposed housing project there should provide a reciprocal benefit to the community (children's playground at Sycamore Park and pedestrian access to the park via Veteran Avenue near the Lot 15 site). However, the proposed Project, including the proposed housing at the Lot 15 site, would not result in any impacts that would require the provision of a children's playground or pedestrian access via Veteran Avenue. Notably, existing operations at Sycamore Park and other recreational facilities available to members of the community would continue, and access would be maintained consistent with existing conditions.

    With respect to the Stipulated Agreement between the WHPOA and The Regents, negotiations are occurring through formal coordination between UCLA, The Regents and currently authorized representatives from the WHPOA. Please refer to Topical Response 3, which further addresses the Stipulated Agreement.

Thomas Abbor, Graduate Student, UCLA Luskin School of Public Affairs

23. The speaker's support for the proposed Project to address the need for affordable housing is noted and will be forwarded for consideration to the decision makers. Please also refer to Topical Response 1, which addresses issues related to housing demand and affordability.

24. The speaker's concurrence with the concept that providing dense housing in a walkable community has environmental benefits is noted and will be forwarded for consideration to the decision makers.

Rafi Sands, Undergraduate Representative on the UC Board of Regents

25. Please refer to Topical Response 1, which addresses issues related to housing demand and affordability.

26. The speaker addresses enrollment at the UCLA campus, but is not specifically addressing the proposed Project or information in the Draft SEIR, no response is required.

27. The speaker's lack of concern regarding visual changes in the area is noted and will be forwarded for consideration to the decision makers.

Terry Tegnazian, Westwood Hills Property Owner

28. Please refer to Topical Response 6, which addresses the proposed extension of the LA Metro Purple Line subway.

29. Please refer to Response to Comment 10 for Comment Letter 7 (provided by the speaker), which also addresses this issue. As identified, a comparison of current conditions at the UC campus to other UC campuses is not relevant to the proposed Project or the analysis presented in the Draft SEIR. As required by CEQA, the Draft SEIR addresses the environmental impacts of the proposed Project based on the current environmental setting. The current environmental setting is described for each topical issue in Section 4 of the Draft SEIR and inherently takes into consideration the current population at the UCLA campus.

30. Please refer to Topical Response 3, which addresses the Stipulated Agreement between the WHPOA and The Regents.

31. Please refer to Topical Response 2, which address previous land use decisions at the UCLA campus.

32. Please refer to Section 2.2 of this Final SEIR, which discusses the proposed current design for the proposed housing project at the UNEX site, and Topical Response 4, which addresses the proposed housing project at UNEX site, including potential aesthetic and historic resource impacts.

John Heidt, Chairman, Westwood United Methodist Church; Vice-Chairman, Westwood Community Council; Westwood HOA Board Member; Westwood Business Improvement District Board Member

33. Please refer to Section 2.2 of this Final SEIR, which discusses the proposed current design for the proposed housing project at the UNEX site, and Topical Response 4, which addresses the proposed housing project at UNEX site, including potential aesthetic and historic resource impacts. The speaker's suggested alternative to replace the current UNEX building with a residential building of the same height and redistribute the remaining unbuilt beds to other sites (refer to comment 35) is noted and will be forwarded for consideration to the decision makers. However, significant and unavoidable impacts resulting from the proposed housing project at the UNEX site are cumulative in nature or related to construction activities that would occur at the UNEX site in combination with other sites and would not be avoided if the UNEX site were developed with a smaller building and remaining beds distributed to the other sites. Therefore, any such alternative would not avoid or eliminate the project impacts identified in the Draft SEIR and further analysis of this suggested alternative is not required.

34. As described in Section 3.5.2, Circulation and Parking, of the Draft SEIR, the proposed housing projects would include vehicular parking, as necessary, to comply with Americans with Disabilities Act (ADA) requirements and to accommodate the drop-off, pick-up, and service needs at each location. No student resident or staff parking would be provided at the proposed housing sites. Should student residents or staff need parking, parking permits would be available for spaces on the UCLA campus.

35. Please refer to Response to Comment 33 above, which addresses the suggested alternative.

Parshan Khosrair, UCLA Graduate Student Association

36. The speaker's comments regarding the public outreach process, the siting of the proposed housing projects, and the cost for housing is noted and will be forwarded for consideration to the decision makers. Please also refer to Topical Response 1, which addresses housing demand and affordability.

Robert Eoelstein, Westwood Hills Resident

37. Please refer to Topical Response 3, of this Final SEIR, which addresses the Stipulated Agreement between the WHPOA and The Regents.

38. Please refer to Topical Response 1, which addresses housing demand.

39. With respect to the reference to the campus as a "commuter campus", as further addressed in Section 4.9, Land Use and Planning, of the Draft SEIR refer to page 4.9-8), in 1986 UCLA drafted its first comprehensive Student Housing Master Plan (SHMP), which was designed to provide direction to the campus in addressing student housing needs in

support of the institution's academic mission. The SHMP has subsequently been updated six times, with the latest update, the *Student Housing Master Plan 2016–2026,* completed in March 2017. A fundamental tenet underlying the housing objectives for the campus has continued to be transforming UCLA from a commuter campus to a residential campus. Notably, the on-campus supply of undergraduate beds has increased from approximately 4,300 to 12,800 in the approximate 30 years since UCLA drafted its first SHMP.

With respect to trip generation, as discussed in Section 4.13, Transportation/Traffic, of the Draft SEIR (refer to the discussion of Campus Trip Generation and Parking on page 4.13-9), the total average daily trip generation for the UCLA campus has varied since the 1990 Long Rand Development Plan (LRDP) was prepared, but has remained well below the LRDP trip cap of 139,500 average daily vehicle trips. During the fall 2016 Cordon counts (the most current available information), the campus generated approximately 105,284 daily vehicle trips, which is approximately 13,985 fewer daily vehicles trips than in 2007 when the March 2009 LRDP Amendment Final EIR was prepared (estimated at 119,269 daily vehicle trips). This represents a 12 percent decrease in the campus daily vehicle trips between 2007 and 2016, despite the weekday average population increase. Further, as shown on Table 4.13-4 of the Draft SEIR, the propose on campus student housing project, would result in an overall decrease in daily traffic (a decrease of approximately 77 average daily trips). Based on the analysis presented in Section 4.13 of the Draft SEIR, the proposed Project would not result in significant traffic impacts during operation.

40. The speaker's opposition to a previous speaker's recommendation to provide public access to the campus from Veteran Avenue is noted and will be forwarded for consideration to the decision makers.

Joshua Avila, UCLA Student

41. The speaker's support for the proposed Project to address the demand for affordable housing is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

Chloe Pan, UCLA Undergraduate External Vice President and Resident Assistant

42. The speaker's support for the proposed Project and opinions regarding housing demand/need and affordability is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

Nicolas Riani, UCLA Student

43. The speaker's support for the proposed Project to address the demand for affordable housing is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

Isaiah Rutledge, UCLA Student

44. The speaker's support for the proposed Project is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

Emily Earnest, UCLA Student

45. The speaker's support for the proposed Project to address the demand for affordable housing is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

Elaine Huang, UCLA Student

46. The commenter's support for the proposed Project is noted and will be forwarded for consideration to the decision makers. This comment addresses the need for housing in the area and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses issues related to housing demand and affordability.

47. The speaker addresses the benefits of providing on campus housing, including a reduction in traffic and associated air quality emissions, consistent with the conclusion presented in the Draft SEIR (refer to Section 4.2, Air Quality, and Section 4.13, Transportation/Traffic).

48. The speaker's concern for the provision of adequate housing at the UCLA campus is noted and will be forwarded for consideration to the decision makers.

Alexander Yee, UCLA Student

49. The speaker's support for the proposed student housing projects to address the current housing demand and reduce traffic, notwithstanding changes in the aesthetic character of the area, is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

Philip Gabriel, Westwood Village Merchant

50. The speaker's suggestion that other sites on campus should be considered for the proposed housing projects is noted and will be forwarded for consideration to the decision makers. Please refer to Section 5.3.2, Alternative On-Campus Site or Sites, of the Draft SEIR, which addresses the site selection process for the proposed housing projects.

51. Please refer to Topical Response 2, which addresses UCLA's involvement in private development off campus.

Lisa Chapman, Westwood Resident and President of Westwood Neighborhood Council

52. The speaker refers to the motion passed by the Westwood Neighborhood Council regarding the proposed Project; the motion is outlined in Comment Letter 8 in Section 2.3 of this Final SEIR; refer to responses to Comment Letter 8. Additionally, for clarification, each of the proposed housing projects is located on the UCLA campus, as suggested by the speaker.

53. The speaker's opinion about The Regents land uses and enrollment decisions at UCLA and other UC campuses is noted and will be forwarded for consideration to the decision makers.

Jonathan Wisner, UCLA Student

54. The speaker's opinions about UCLA and its relationship with the surrounding community (i.e., Westwood Village) are noted and will be forwarded for consideration to the decision makers.

Shahamah Tarig, UCLA Student

55. The speaker's support for the proposed student housing projects to address the need for affordable housing is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

Garrett R. Dahn, UCLA Student

56. The speaker's opinions about UCLA and the visual character of the campus and Westwood are noted and will be forwarded for consideration to the decision makers.

Emilio Balingit, UCLA Graduate Student

57. The speaker's support for the proposed student housing projects to address the need for affordable housing is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

58. The speaker addresses the provision of on campus housing with limited parking to reduce vehicular travel, consistent with information presented in the Draft SEIR (refer to Section 4.13, Transportation/Traffic).

Gabe Rose, Abundant Housing LA

59. The speaker's support for the proposed student housing projects to address the need for affordable housing, notwithstanding concerns about changes in the aesthetic character and other issues, is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

Arielle Yael Mokhtarzadeh, UCLA Undergraduate Student Association Council President

60. The speaker's support for the proposed student housing projects to address the need for affordable housing, notwithstanding concerns that have been raised, is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

61. Please refer to Topical Response 2, which addresses land uses decision at the UCLA campus.

62. This comment is unrelated to the proposed Project and no response is required.

Nick Burns, Abundant Housing LA

63. The speaker's support for the proposed student housing projects to address the need for affordable housing is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

Steve Sann, Chairman, Westwood Community Council Chairman

64. The speaker's introductory comments and support for on campus student housing is noted and will be forwarded for consideration to the decision makers.

65. Please refer to Section 2.2 of this Final SEIR, which discusses the proposed current design for the proposed housing project at the UNEX site, and Topical Response 4, which

addresses the proposed housing project at the UNEX site, including potential visual impacts and potential impacts to historic resources (i.e., the Fox Theater).

66. The speaker's recommendation to reduce the number of beds at the UNEX site and increase the number of beds at the Warren Hall, Bradley Hall and/or Drake Stadium sites (not Lot 15) is noted and will be forwarded for consideration to the decision makers. However, significant and unavoidable impacts resulting from the proposed housing project at the UNEX site are cumulative in nature or related to construction activities that would occur at the UNEX site in combination with other sites and would not be avoided if the UNEX site were developed with a smaller building and remining beds distributed to the other sites. Therefore, any such alternative would not avoid or eliminate the project impacts identified in the Draft SEIR and further analysis of this suggested alternative is not required. Please also refer to Topical Response 3, which addresses the Stipulated Agreement between the WHPOA and The Regents, and to Response to Comment 6 of Letter 16, which also suggested an alternative to reallocate beds from the proposed building at the UNEX site to the proposed building at the Warren Hall site.

67. The speaker's desire to work with UCLA and support the development of on campus housing is noted and will be forwarded for consideration to the decision makers.

Austin Cyr, Abundant Housing LA

68. The speaker's support for the proposed student housing projects to address the need for affordable housing is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

Michael Skiles, UCLA Graduate Student President

69. The speaker's support for the proposed student housing projects to address the need for affordable housing is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

70. The speaker addresses the provision of on campus housing to reduce vehicular travel, consistent with information presented in the Draft SEIR (refer to Section 4.13, Transportation/Traffic).

71. The speaker's opinion about the potential positive visual character of the proposed housing project at the UNEX site, and potential to increase revenue in the Westwood Village, is noted and will be forwarded for consideration to the decision makers.

Matt Stauffer, Abundant Housing LA

72. The speaker's support for the proposed student housing projects to address the need for housing is noted and will be forwarded for consideration to the decision makers. Please refer to Topical Response 1, which addresses housing demand and affordability.

73. The speaker addresses the provision of on campus housing to reduce vehicular travel, consistent with information presented in the Draft SEIR (refer to Section 4.13, Transportation/Traffic).

John Schwada

74. Please refer to Topical Response 2, which addresses UCLA's involvement in private development off campus. It should also be noted that University housing is not funded by

taxpayer money or tuition fees. UCLA Housing operates within the UC System as an Auxiliary Enterprise. As such, housing is "precluded" from receiving any money from the State of California. This special operating status requires Housing Administrators to establish rates that ensure that the campus is generating sufficient gross revenues to pay all operating expenses, service annual debt, and maintain sufficient reserves to ensure that the housing program will be sustained as a long-term financially viable asset, in accordance with University policy.

Participant A, Westwood Hills Property Owner

75. Please refer to Topical Response 3, of this Final SEIR, which addresses the Stipulated Agreement between the WHPOA and The Regents. Also, please refer to Section 5.3.2, Alternative On-Campus Site or Sites, of the Draft SEIR, which addresses the site selection process for the proposed housing projects, and Topical Response 2, which addresses previous land uses decision at the UCLA campus.

Participant B

76. This comment addresses the enrollment of out of state students and financial issues associated with UC operations and will be forwarded for consideration to the decision makers. However, this comment does not does not question the content or conclusions of the current Draft SEIR, and no response is required. Further, CEQA does not generally require the inclusion of economic or social analysis in environmental documents. The focus of CEQA is on potential adverse impacts of the project on the physical environment. Accordingly, any economic or social effect by itself is not treated as a significant effect on the environment (State CEQA Guidelines, Section 15382).

Participant C, Westwood Community Council Appointee

77. The speaker's opposition to frivolous CEQA lawsuits or any reduction in the number of proposed bed is noted and will be forwarded for consideration to the decision makers.

Participant D

78. The speaker's opinion about The Regents enrollment decisions and provision of housing at UCLA is noted and will be forwarded for consideration to the decision makers. Please also refer to Topical Response 3, which addresses the Stipulated Agreement between the WHPOA and The Regents.

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SECTION 4.0 CLARIFICATIONS AND REVISIONS TO THE DRAFT SEIR

Minor clarifications and revisions to the UCLA LRDP Amendment (2017) and Student Housing Projects Draft Subsequent Environmental Impact Report (SEIR) text and tables generated either from responses to comments or independently by UCLA, are stated in this section of the Final SEIR. This section is organized by respective sections of the EIR. Deleted text is shown as ~~strikeout~~ and new text is <u>underlined</u>.

The University has reviewed this information and determined that the Draft SEIR revisions and information presented in the Responses to Comments do not result in any of the conditions set forth in Section 15088.5 of the State CEQA Guidelines requiring that the EIR be recirculated prior to its certification. Specifically, Section 15088.5, Recirculation of an EIR Prior to Certification, of the CEQA Guidelines, states:

> (a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation include, for example, a disclosure showing that:
>
> (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
> (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
> (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project's proponents decline to adopt it.
> (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.
>
> (b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.

SECTION 3.0 - PROJECT DESCRIPTION

1. Page 3-11, Table 3-3 is hereby revised to reflect the correct maximum building elevations for Buildings 1 and 2 (the numbers were inadvertently transposed in the Draft SEIR):

TABLE 3-3
WARREN HALL SITE
BUILDING CHARACTERISTICS

Building	Number of Levels	Building Type[a]	Maximum Building Elevation (above mean sea level)
Building 1 (West)	8	**Mid-rise**	~~509~~ 485
Building 2 (East)	10	**Mid-rise**	~~485~~ 509
Building 3 (South)	8	**Mid-rise**	480
[a] Mid-rise buildings range from 46 to 75 feet.			

2. Page 3-24, the construction route description for the Bradley site is hereby revised as follows:

> It is expected that the construction routes for this site would be I-405, Wilshire Boulevard, ~~Veteran Avenue,~~ Gayley Avenue, Strathmore Place, and Charles E. Young Drive West.

SECTION 4.1 - AESTHETICS

3. Page 4.1-11, the 1st paragraph under Senate Bill 743, Transit Oriented Development, is hereby revised as follows to correct the Public Resources Code section citation:

> …With respect to this section of the Draft SEIR, SB 743 Public Resources Code section ~~20199~~ 21099, subdivision (d) provides that aesthetic impacts shall not be considered significant impacts on the environment, in some circumstances. Specifically, Section ~~20199~~ 21099, subdivision (d), provides that aesthetics impacts shall not be considered significant CEQA impacts of a project that meets the following criteria…

4. Page 4.1-19, the last two rows of Table 4.1-2 are hereby revised as follows to correctly identify the East and West Buildings as Buildings 1 and 2, respectively:

Warren Hall Site – Proposed Building 1~~2~~ ~~(East)~~ (West)	***485.0***
Warren Hall Site – Proposed Building 2~~1~~ ~~(West)~~ (East)	***509.0***

SECTION 4.2 - AIR QUALITY

5. Page 4.2-19, the 2nd row of Table 4.2-6 is hereby revised to correct the identification of total daily CO emissions in 2023.

TABLE 4.2-6
MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS FOR THE PROPOSED DRAKE STADIUM AND BRADLEY SITES

Year	Emissions (lbs/day)				
	VOC	**NOx**	**CO**	**PM10**	**PM2.5**
2022	<0.5	9	12	1	1
2023	4	54	54~~53~~	9	4
2024	4	31	51	8	3
2025	18	38	67	9	4
Maximum Daily Emissions	***18***	***54***	***67***	***9***	***4***
SCAQMD Significance Thresholds (Construction) (Table 4.2-4)	75	100	550	150	55
Significant Impact?	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter less than 10 micrometers in diameter; PM2.5: fine particulate matter less than 2.5 micrometers in diameter; SCAQMD: South Coast Air Quality Management District.

Note: Calculations assume compliance with SCAQMD Rules 403 and 1113 (see PP 4.2-2[a] and PP 4.2-2[d]).

Emissions are the higher of summer or winter; see Appendix C.

6. Page 4.2-20, Table 4.2-8 is hereby revised to correct the summation of Total Operational Emissions:

TABLE 4.2-8
MAXIMUM DAILY OPERATIONAL EMISSIONS FOR THE PROPOSED FIVE RESIDENTIAL SITES (2025)

Source	Emissions (lbs/day)				
	VOC	**NOx**	**CO**	**PM10**	**PM2.5**
Area sources	39	2	142	1	1
Energy sources	<0.5	4	2	1	1
Stationary sources	3	11	7	<0.5	1
Total Operational Emissions	***~~46~~43***	***~~27~~16***	***~~160~~151***	***2***	***2***
SCAQMD Significance Thresholds (Operation) (Table 4.2-4)	55	55	550	150	55
Significant Impact?	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter less than 10 micrometers in diameter; PM2.5: fine particulate matter less than 2.5 micrometers in diameter; SCAQMD: South Coast Air Quality Management District.

Emissions are higher in winter and summer seasons.

Totals may not add due to rounding error.

Note: CalEEMod data sheets are included in Appendix C.

7. Page 4.2-25, discussion of PM10 Emissions is hereby revised as follows to correct the estimated amount of PM10 emissions per day:

> **PM10 Emissions**. … For the Warren Hall site, the PM10 emissions would be 3.1 ~~3.9~~ pounds per day, which is less than the 3.9-acre threshold of 10.4 pounds per day. For the UNEX site, the PM10 emissions would be 1.0 pounds per day, which is less than the 1-acre threshold of 4 pounds per day.

SECTION 4.3 - BIOLOGICAL RESOURCES

8. Page 4.3-4, the 2nd paragraph under "Special Status Vegetation Types, is hereby revised as follows to clarify the status of the identified habitat:

> As further described under the discussion of "Vegetation" below, the area surveyed in the Northwest zone to support preparation of this Draft SEIR consists of California sagebrush scrub–grassland ecotones, including native grassland, in the northern portion of the mapped area and coast live oak and ornamental trees with non-native grassland in the southern portion. **Coastal sage scrub, native grasslands, and coast live oak woodlands are often considered special status by local jurisdictions. However, it should be noted that** the limited extent of native habitat in this parcel and lack of contiguous off-site habitat reduces the overall habitat quality.

9. Page 4.3-8, the 2nd paragraph is hereby revised as follows to clarify the discussion of bird species at the proposed housing sites.

> Bird species ~~observed in the survey area north of the Lot 15 site and~~ expected to occur at all ~~the other four~~ five project sites include mourning dove (*Zenaida macroura*), rock pigeon (*Columba livia*), Anna's hummingbird (*Calypte anna*), ~~Allen's hummingbird (*Selasphorus sasin*), red-shouldered hawk (*Buteo lineatus*),~~ black phoebe (*Sayornis nigricans*), ~~California scrub-jay (*Aphelocoma californica*),~~ American crow (*Corvus brachyrhynchos*), ~~oak titmouse (*Baeolophus inornatus*),~~ bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), American robin (*Turdus migratorius*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), orange-crowned warbler (*Oreothypis celata*), ~~spotted towhee (*Pipilo maculatus*),~~ California towhee (*Melozone crissalis*), and song sparrow (*Melospiza melodia*). Additional bird species observed in the survey area north of the Lot 15 site, include Allen's hummingbird (*Selasphorus sasin*), red-shouldered hawk (*Buteo lineatus*), California scrub-jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), and spotted towhee (*Pipilo maculatus*).

10. Page 4.3-8, the 3rd paragraph is hereby revised as follows to clarify the discussion of mammal species at the proposed housing sites.

> At the Warren Hall and UNEX sites, which are primarily developed, only urban-tolerant wildlife species would be expected to occur such as northern raccoon (*Procyon lotor)* and Virginia opossum (*Didelphia virginiana*). Additional m~~M~~ammal species ~~or sign of their presence~~ observed or expected to occur at the Lot 15 site, north of the Lot 15 site~~, and expected to occur at the other four project sites,~~ and at the Bradley and Drake Stadium sites include desert cottontail (*Sylvilagus audubonii*), ~~and~~ California ground squirrel (*Otospermophilus beecheyi*), and coyote (*Canis latrans*). North of the Lot 15 site, woodrat

(*Neotoma* sp.) could also occur. Additionally, bat species that could roost in woodland or ornamental vegetation include Yuma myotis (*Myotis yumanensis*), Mexican free-tail (*Taderida brasiliensis*), and hoary bat (*Lasiurus cinereus*).

11. Page 4.3-13, the 1st paragraph under "Natural Communities" is hereby revised as follows to correct the reference to native grassland.

> With the exception of the Lot 15 site, the project sites do not include and are not located in proximity to natural communities. ~~None o~~ Of the mapped communities, the only one that is considered~~are considered~~ special status by CDFW (CDFG 2010) is California sagebrush scrub–native grassland. However, local jurisdictions may consider California sagebrush scrub, California sagebrush scrub–native grassland ecotone, California sagebrush scrub–non-native grassland ecotone, and coast live oak to be locally rare.

SECTION 4.4 – CULTURAL AND TRIBAL CULTURAL RESOURCES

12. Page 4.4-25, the 2nd paragraph under "UNEX Site" is hereby revised as follows to correct the description of the proposed housing project at the UNEX site, as described in the Draft SEIR:

> The proposed development at the UNEX site would replace the existing seven-story building with ~~three~~ one building~~s~~ of varying heights. One component of the proposed building~~s would be a low-rise at about three stories and one~~ would be similar to the existing building at about nine stories. The ~~third proposed~~ second building component would be about 20 stories tall. The current UNEX building is one of the more visibly tall buildings in this part of Westwood Village, and it is expected that the proposed development would be equally visible.

SECTION 4.10 – NOISE AND VIBRATION

13. Page 4.10-23, the last paragraph is hereby revised as follows to correct the description of construction haul routes:

> With respect to construction vehicle noise impacts, as previously identified, the most frequent haul truck use would be the concurrent demolition at the Lot 15 and Warren Hall sites and grading at the UNEX site, which would occur during that period. There would be an estimated combined 81 round trips per day for an approximately two-month period. The common truck routes for ~~all three~~ the Warren Hall and UNEX sites would include I-405, Wilshire Boulevard, and Veteran Avenue; the truck route for the UNEX site would also include Gayley Avenue. The truck route for the Lot 15 site would also include I-405 and Wilshire Boulevard to Gayley Avenue. Grading and soil export from the Bradley site, with an estimated 63 round trips per day would occur for an approximate 3-month period in 2023. The truck route would include I-405, Wilshire Boulevard, ~~Veteran Avenue,~~ Gayley Avenue, Strathmore Place, and Charles E. Young Drive West. Along these truck routes, t~~T~~here are residences adjacent to Veteran Avenue and Gayley Avenue.

SECTION 5.0 – ALTERNATIVES TO THE PROPOSED PROJECT

14. Page 5-56, the last sentence of the 1st full paragraph is hereby revised as follows to correct the Alternative reference:

> Finally, with the accommodation of up to 4,750 beds, Alternative ~~3~~ 2 would not meet the Project objective to provide up to 6,900 undergraduate and graduate student beds in on-campus housing to address current and anticipated demand consistent with the Student Housing Master Plan goals.

SECTION 5.0 MITIGATION MONITORING AND REPORTING PROGRAM

5.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires the adoption of feasible mitigation measures to reduce the severity and magnitude of potentially significant environmental impacts associated with project development. The Final Subsequent Environmental Impact Report (SEIR) for the proposed LRDP Amendment (2017) and Student Housing Projects (the proposed Project) (State Clearinghouse No. 2017051024) analyzes the impacts of the proposed Project, which includes all relevant mitigation measures (MMs) and campus programs, practices, and procedures (PPs) carried forward from the March 2009 LRDP Amendment Final EIR. This Mitigation Monitoring and Reporting Program (MMRP), which identifies the LRDP EIR MMs and PPs included as part of the Project description, and project-specific MMs related to air quality, historic resources, geology and soils, hazardous materials, construction noise, and construction traffic, obligates the University to implement the identified PPs and MMs. Under the delegated-authority process, the MMRP will be reviewed by The Regents, in conjunction with consideration for approval of the proposed Project and adoption of the Final SEIR.

Monitoring of the PPs and MMs identified in the MMRP is required by Public Resources Code Section 21081.6. Following adoption of the Final SEIR and approval of this MMRP, the PPs and MMs from the March 2009 LRDP Amendment Final EIR included as part of the Project description would be monitored in conjunction with UCLA's annual LRDP EIR Mitigation Monitoring Program and reporting process.

5.1.1 PURPOSE

The purpose of the MMRP is to ensure compliance with all PPs and MMs to avoid or reduce adverse environmental impacts resulting from construction and operation of the proposed Project, which were identified in the Draft SEIR. The implementation of the applicable PPs and MMs shall be performed by the University, consulting architects, contractors, and appropriate agencies during the following:

- Development of the design;
- Preparation of the construction contracts;
- Construction phase; and
- Project operation.

5.1.2 PROJECT DESCRIPTION

The University of California, Los Angeles (UCLA) proposes to develop on-campus undergraduate and graduate student housing (up to 6,900 beds) at the following five on campus sites.

- **Lot 15 Site.** This approximate 3.1-acre site is located in the campus Northwest zone west of and adjacent to De Neve Drive, generally east of Veteran Avenue, south of the existing Hitch Suites, and north of the existing Saxon Suites.
- **Warren Hall Site.** This approximate 3.9-acre site is located in the campus Southwest zone at 900 Weyburn Place North, west of Weyburn Place and north of Weyburn Avenue.
- **University Extension (UNEX) Site.** This approximate 1.0-acre site is located in the campus Bridge zone at 10995 Le Conte Avenue in the northwest quadrant of the Le Conte Avenue/Gayley Avenue intersection and east of Levering Avenue.

- **Bradley Site.** This approximate 1.1-acre site is located in the campus Northwest zone and consists of the undeveloped sloped area adjacent to and north of the intersection of Gayley Avenue and Strathmore Drive
- **Drake Stadium Site.** This approximate 1.3-acre site is located in the campus Central zone generally over the Drake Stadium concourse, south of Sunset Boulevard, east of and adjacent to Charles E. Young Drive West, and west of Drake Stadium.

Because the proposed housing development was not contemplated in the 2002 Long Range Development Plan (LRDP), as amended in March 2009 (Existing LRDP), an amendment to add 1,500,000 gross square feet (gsf) is proposed. The proposed amendment to the Existing LRDP would add 1,500,000 gsf of developable space allocated to student housing on the UCLA campus (hereinafter referred to as the "LRDP Amendment [2017]"). The remaining development allocation in the Existing LRDP is approximately 174,615 gsf. The proposed LRDP Amendment (2017) would retain the remaining 174,615 gsf of development allocation with no change in assigned use. The additional 1,500,000 gsf under the proposed LRDP Amendment (2017) would be designated for student housing to meet the housing guarantees identified in the Student Housing Master Plan 2016–2026 (SHMP).

The proposed development at each site would consist of residential and associated support uses (e.g., laundry facilities, study and meeting spaces, mail rooms). With the exception of the Warren Hall site, which would also provide graduate student beds, each of the proposed housing projects would provide undergraduate beds. It is assumed that the first three sites to be developed include the Lot 15, Warren Hall, and UNEX sites, which is based on the ability to maximize the use of limited land resources and develop the proposed housing in timely manner. Currently proposed schematic designs exist for the Lot 15, Warrant Hall, and UNEX sites, and the details of those schematic designs are incorporated into this Final SEIR, as discussed above in Section 2 of this Final SEIR. Development at these sites is estimated to be complete by 2022. It is estimated that development at the Bradley and Drake Stadium sites would be complete by 2025, but no currently proposed schematic design exists at this time for the Bradley and Drake Stadium sites. The proposed Project would also generate approximately 145 new staff positions.

The proposed housing development would total approximately 1,598,600 gsf of new building space for up to 6,900 beds and various residential support uses. Development of the proposed student housing projects would require demolition of the existing buildings at the Lot 15, Warren Hall, and UNEX sites, totaling approximately 215,000 gsf. Following is a description of the currently proposed development at each of the proposed housing sites:

- **Lot 15 Site**. Existing structures at this site would be removed, and the operations would be accommodated as part of the proposed housing project or elsewhere in the Northwest zone. Under the currently proposed schematic design, this site would accommodate up to 1,781 undergraduate beds. Two mid-rise buildings totaling approximately 343,600 gsf would be constructed; the buildings would be 8 levels.
- **Warren Hall Site**. Existing uses at this site would be demolished. Under the currently proposed schematic design, this site would accommodate up to 2,279 beds (approximately 321 beds for graduate students and 1,958 beds for undergraduate students). Three mid-rise buildings totaling approximately 591,100 gsf would be constructed; the buildings would be 8 and 10 levels.
- **UNEX Site**. The existing UNEX building would be demolished and existing occupants at this building would be relocated to leased space adjacent to the campus as part of a long-term plan to consolidate the University Extension Program into a new facility. Under the currently proposed schematic design, the UNEX site would accommodate up to 1,159

upper-division undergraduate beds. The proposed building would be 301,900 gsf and configured with 9 and 17 levels (medium- and high-rise, respectively).

- **Bradley Site**. This site would accommodate up to 600 undergraduate beds. Two mid-rise buildings totaling approximately 122,000 gsf would be constructed; the buildings would be 7 and 8 levels (with 1 partial subterranean level). A dining facility is also proposed at this site.
- **Drake Stadium Site**. The proposed housing structure would be developed in the area over and surrounding the existing Drake Stadium concourse. This site would accommodate up to 800 undergraduate beds. The proposed mid-rise building would be approximately 240,000 gsf and up to 9 levels. Development of this site would also provide an opportunity to accommodate additional space for athletic programs associated with the stadium and nearby athletic facilities. The track and field of Drake Stadium would remain in use during the building construction for both recreation and National Collegiate Athletic Association (NCAA) Athletic team uses. Spectator events would be facilitated with mobile bleachers that are currently used on the east side of the field.

No student or staff parking would be provided at the housing sites, only limited parking for Americans with Disabilities Act (ADA) compliance, service and delivery vehicles, and pick-up/drop-offs would be provided. Bicycle storage and parking facilities would be provided. Landscape/hardscape, lighting, access, and streetscape improvements would be completed at each site as necessary to serve the proposed housing projects. Additionally, on-site infrastructure would be installed to serve the planned land uses (water, wastewater, storm drains, and dry utilities). The on-site utilities would be connected to existing off-site utilities. Additionally, existing sewer lines in portions of Gayley Avenue and Veteran Avenue would be upgraded.

The actions to be considered by The Regents for the proposed Project include (1) budget approval, (2) certification of the Final Subsequent EIR, (3) modification to the 1978 Stipulated Agreement of Compromise and Order (entered by the Los Angeles Superior Court and resolving litigation filed by the Westwood Hills Property Owners Association against The Regents) to allow for residential development on the Lot 15 site, and (4) design approval the proposed housing projects at the Lot 15, Warren Hall, and UNEX sites.

5.1.3 MONITORING PROCEDURES

The project manager (PM) from the University Capital Programs, Design and Construction Department, would be responsible for ensuring that design and construction contracts contain the relevant mitigation measures adopted in the Final SEIR, and that mitigation measures are implemented during the design, construction and operational phases of the Project.

In general, monitoring will consist of demonstrating that mitigation measures were implemented, and that the responsible units monitored the implementation of the measures. Monitoring will consist of determining whether the following occurred.

- Specific issues were considered in the design development phase.
- Construction contracts included the specified provisions.
- Certain actions occurred prior to construction.
- The required measures were acknowledged and implemented during construction of the project.

Any problems or concerns between monitors and construction personnel shall be addressed by the PM. The contractor shall prepare a construction schedule subject to review and approval by

the PM. The contractor shall inform the PM of any major revisions to the construction schedule at least 48 hours in advance. The PM and contractor shall meet weekly, in order to assess compliance and review future construction activities.

5.1.4 REPORTING PROCEDURES

Monitoring of PPs and MMs included as part of the Project, as well as project-specific mitigation measures, will be reported in conjunction with the LRDP EIR Mitigation Monitoring and Reporting Program Status Report prepared annually by UCLA Capital Programs. The annual reporting identifies the Project's PPs and MMs and describes their implementation status for each phase of project development, including design, construction, landscaping and operation.

5.2 LIST OF CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES

Table 5-1 lists the MMs and PPs from the certified March 2009 LRDP Amendment Final EIR applicable to and included as part of the proposed Project, and project-specific mitigation measures identified in the Final SEIR (presented in **bold** text). Table 5-1 also identifies the monitoring timing for each phase of project development, including design, pre-construction, construction, landscaping and operation.

TABLE 5-1
PROJECT LEVEL MITIGATION MEASURES AND LRDP CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES INCLUDED AS PART OF THE LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
Aesthetics		
PP 4.1-1(a)	Design	The design process shall evaluate and incorporate, where appropriate, factors including, but not necessarily limited to, building mass and form, building proportion, roof profile, architectural detail and fenestration, the texture, color, and quality of building materials, focal views, pedestrian and vehicular circulation and access, and the landscape setting to ensure preservation and enhancement of the visual character and quality of the campus and the surrounding area. Landscaped open space (including plazas, courts, gardens, walkways, and recreational areas) shall be integrated with development to encourage use through placement and design.
PP 4.1-2(b)	Design	The architectural and landscape traditions that give the campus its unique character shall be respected and reinforced.
PP 4.1-2(c)	Design and Construction	Projects proposed under the 2002 LRDP shall include landscaping.
PP 4.1-2(d)	Design	The western, northern, and eastern edges of the main campus shall include a landscaped buffer to complement the residential uses of the surrounding community and to provide an attractive perimeter that effectively screens and enhances future development.
MM 4.1-3(a)	Design	Design for specific projects shall provide for the use of textured non-reflective exterior surfaces and non-reflective glass.
MM 4.1-3(b)	Design	All outdoor lighting shall be directed to the specific location intended for illumination (e.g., roads, walkways, or recreation fields) to limit stray light spillover onto adjacent residential areas. In addition, all lighting shall be shielded to minimize the production of glare and light spill onto adjacent uses.
MM 4.1-3(c)	Design	Ingress and egress from parking areas shall be designed and situated so the vehicle headlights are shielded from adjacent uses. If necessary, walls or other light barriers will be provided.
Air Quality		

TABLE 5-1
PROJECT LEVEL MITIGATION MEASURES AND LRDP CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES INCLUDED AS PART OF THE LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
PP 4.2-2(a)	Construction	The campus shall continue to implement dust control measures consistent with SCAQMD Rule 403—Fugitive Dust during the construction phases of new project development. The following actions are currently recommended to implement Rule 403 and may be quantified in the CalEEMod program: • Minimize land disturbance to the extent feasible. • Apply water and/or approved nontoxic chemical soil stabilizers according to manufacturer's specification to all inactive construction areas (previously graded areas that have been inactive for 10 or more days) • Apply water three times daily to all active disturbed areas. • Replace ground cover in disturbed areas as quickly as possible. • Enclose, cover, water twice daily, or apply approved chemical soil binders to exposed piles with 5 percent or greater silt content. • Water active grading sites at least twice daily. • Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour over a 30-minute period. • All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer), in accordance with Section 23114 of the California Vehicle Code. • Sweep streets at the end of the day if visible soil material is carried over to adjacent roads. • Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip. • Apply water three times daily or chemical soil stabilizers according to manufacturers' specifications to all unpaved parking or staging areas or unpaved road surfaces. • Post and enforce traffic speed limits of 15 miles per hour or less on all unpaved roads.
PP 4.2-2(b)	Pre-construction and Construction	The campus shall continue to require by contract specifications that construction equipment engines will be maintained in good condition and in proper tune per manufacturer's specification for the duration of construction.
PP 4.2-2(c)	Pre-construction and Construction	The campus shall continue to require by contract specifications that construction operations rely on the campus' existing electricity infrastructure rather than electrical generators powered by internal combustion engines to the extent feasible.
PP 4.2-2(d)	Construction	The campus shall purchase and apply ultra-low VOC architectural coatings with reactivity-adjusted VOC content that meets or exceeds the requirements of SCAQMD Rule 1113, thereby ensuring the limitation of VOCs during construction.
MM 4.2-2(a)	Pre-construction and Construction	The campus shall require by contract specifications that construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five minutes.
MM 4.2-2(b)	Pre-construction and Construction	The campus shall encourage contractors to utilize alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, and low-NOx fuel) to the extent that the equipment is reasonably commercially available and cost effective.

TABLE 5-1
PROJECT LEVEL MITIGATION MEASURES AND LRDP CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES INCLUDED AS PART OF THE LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
MM 4.2-2(c)	Pre-construction and Construction	The campus shall require by contract specifications that construction-related equipment used on site and for on-road export of soil meet USEPA Tier III certification requirements, as feasible.
MM AQ-1	**Pre-construction and Construction**	**<u>Bradley Site Only</u>** **The campus shall require by Contractor Specifications that diesel engine driven construction equipment greater than 50 horsepower used for the grading of the Bradley site be certified to be Tier 4 compliant for NOx emissions.**
Biological Resources		
PP 4.3-1(a)	Construction	Mature trees to be retained and protected in place during construction, shall be fenced at the drip-line, and maintained by the contractor in accordance with landscape specifications contained in the construction contract.
PP 4.3-1(b)	Pre-construction	Trees shall be examined by an arborist and trimmed, if appropriate, prior to the start of construction.
PP 4.3-1(c)	Pre-construction and Construction	Construction contract specifications shall include the provision for temporary irrigation/watering and feeding of these trees during construction, as recommended by the designated arborist.
PP 4.3-1(d)	Pre-construction and Construction	Construction contract specifications shall require that no building material, parked equipment, or vehicles shall be stored within the fence line of any tree.
PP 4.3-1(e)	Construction	Examination of these trees by an arborist shall be performed monthly during construction to ensure that they are being adequately maintained.
MM 4.3-1(a)	Pre-construction	Prior to the onset of construction activities that occur between March and mid-August (February 1 through June 30 for raptors), surveys for nesting special status avian species and raptors shall be conducted on the affected portion of the campus following USFWS and/or CDFG guidelines. If no active avian nests are identified on or within 250 feet of the construction site, no further mitigation is necessary.
MM 4.3-1(b)	Pre-construction and Construction	If active nests for avian species of concern or raptor nests are found within the construction footprint or within a 250-foot buffer zone around the construction site, exterior construction activities shall be delayed within the construction footprint and buffer zone until the young have fledged or appropriate mitigation measures responding to the specific situation have been developed and implemented in consultation with CDFW.
MM 4.3-1(c)	CEQA Documentation	In conjunction with CEQA documentation required for each project proposal under the 2002 LRDP, as amended, that would result in the removal of one or more mature trees, the project will include a tree replacement plan with a 1:1 tree replacement ratio at the development site where feasible and/or elsewhere within the campus boundaries where feasible. If it is not feasible to plant replacement trees at a 1:1 ratio within the campus boundaries, the tree replacement plan will include the planting of native shrubs in ecologically appropriate areas within the campus boundaries that would provide nesting, foraging or roosting habitat for birds so that the replacement number of trees and shrubs will result in a 1:1 replacement ratio.
MM 4.3-4	Design and Construction	UCLA shall replace protected trees removed for construction of projects under the 2002 LRDP, as amended, with protected trees of the same species at a 2:1 ratio as presented in the City of Los Angeles Protected Tree Ordinance (Ordinance Number 177404). Protected trees are defined as coast live oak, valley oak, western sycamore, Southern California black walnut, and California bay laurel.
Cultural and Tribal Resources		

TABLE 5-1
PROJECT LEVEL MITIGATION MEASURES AND LRDP CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES INCLUDED AS PART OF THE LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
PP 4.4-1(a)	CEQA Documentation and Design	Structures outside the campus Historic Core that appear to have historic significance, or are over 45 years old, that may be directly or indirectly impacted by a proposed development project shall be reviewed by the campus and a qualified architectural historian or historic architect for eligibility for listing on the California Register of Historical Resources. If a structure is identified as eligible for listing in the California Register of Historical Resources, and it is determined that the project could have a significant adverse impact on the structure, the campus and a qualified historic architect shall consider design modifications, mitigation measures and/or alternatives that could minimize, avoid or substantially reduce the impacts, and consider whether and to what extent the project could comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Weeks and Grimmer 1995).
PP 4.4-5	Construction	In the event of the discovery of a burial, human bone, or suspected human bone, all excavation or grading in the vicinity of the find shall halt immediately, the area of the find shall be protected, and the University immediately shall notify the Los Angeles County Coroner of the find and comply with the provisions of Public Resources Code Section 5097 with respect to Native American involvement, burial treatment, and re-burial, if necessary.
MM 4.4-2(a)	Pre-construction	Prior to site preparation or grading activities, construction personnel shall be informed of the potential for encountering unique archaeological resources and taught how to identify these resources if encountered. This shall include the provision of written materials to familiarize personnel with the range of resources that might be expected, the type of activities that may result in impacts, and the legal framework of cultural resources protection. All construction personnel shall be instructed to stop work in the vicinity of a potential discovery until a qualified, non-University archaeologist assesses the significance of the find and implements appropriate measures to protect or scientifically remove the find. Construction personnel shall also be informed that unauthorized collection of archaeological resources is prohibited.
MM 4.4-2(b)	Construction	Should archaeological resources be found during ground disturbing activities for any project, a qualified Archaeologist shall first determine whether an archaeological resource uncovered during construction is a "unique archaeological resource" pursuant to Section 21083.2(g) of the Public Resources Code or a "historical resource" pursuant to Section 15064.5(a) of the CEQA Guidelines. If the archaeological resource is determined to be a "unique archaeological resource" or a "historical resource," the Archaeologist shall formulate a mitigation plan in consultation with the campus that satisfies the requirements of Section 21083.2 and 15064.5. If the Archaeologist determines that the archaeological resource is not a "unique archaeological resource" or "historical resource," s/he may record the site and submit the recordation form to the California Historic Resources Information System at the South Central Coastal Information Center. The Archaeologist shall prepare a report of the results of any study prepared as part of a mitigation plan, following accepted professional practice. Copies of the report shall be submitted to the University and to the California Historic Resources Information System at the South Central Coastal Information Center.

TABLE 5-1
PROJECT LEVEL MITIGATION MEASURES AND LRDP CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES INCLUDED AS PART OF THE LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
MM 4.4-2(c)	Pre-construction	Prior to initiation of construction activities for projects that require disturbance of native sediments/soils (as identified through site-specific geotechnical analysis), the campus shall retain a qualified non-University Archaeologist to observe grading activities and recover, catalogue, analyze, and report archaeological resources as necessary. The qualified Archaeologist shall submit to the Capital Programs University Representative, a written plan with procedures for archaeological resource monitoring. This plan shall include procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the resources as appropriate. This plan shall also identify procedures for notification of the appropriate Native American Tribe if potential Native American artifacts are encountered. The Native American Monitor shall assist in the analysis of any Native American artifacts for identification as everyday life and/or religious or sacred items, cultural affiliation, temporal placement and function, as much as possible. The significance of Native American resources shall be evaluated in accordance with the provisions of CEQA and shall consider the religious beliefs, customs, and practices of the affected tribes. All items found in association with Native American human remains shall be considered grave goods or sacred in origin and subject to special handling.
MM 4.4-3(a)	Pre-construction	Prior to site preparation or grading activities, construction personnel shall be informed of the potential for encountering paleontological resources and taught how to identify these resources if encountered. This shall include the provision of written materials to familiarize personnel with the range of resources that might be expected; the type of activities that may result in impacts; and the legal framework of cultural resources protection. All construction personnel shall be instructed to stop work in the vicinity of a potential discovery until a qualified, non-University Paleontologist assesses the significance of the find and implements appropriate measures to protect or scientifically remove the find. Construction personnel shall also be informed that unauthorized collection of paleontological resources is prohibited.
MM 4.4-3(b)	Construction	A qualified Paleontologist shall first determine whether a paleontological resource uncovered during construction meets the definition of a “unique archaeological resource” under Public Resources Code, Section 21083.2(g) or a “historical resource” under Section 15064.5 of the CEQA Guidelines. If the paleontological resource is determined to be a “unique archaeological resource” or a “historical resource”, the Paleontologist shall formulate a Mitigation Plan in consultation with the campus that satisfies the requirements of Section 21083.2 of the CEQA Statutes. If the Paleontologist determines that the paleontological resource is not a unique resource, s/he may record the site and submit the recordation form to the Natural History Museum of Los Angeles County. The Paleontologist shall prepare a report of the results of any study prepared as part of a mitigation plan, following accepted professional practice. Copies of the report shall be submitted to the University and to the Natural History Museum of Los Angeles County.
MM HIST-1	**Pre-construction**	**<u>Warren Hall Site Only</u>** **Prior to the demolition of Warren Hall at 900 Weyburn Place, the building shall be documented to the standards of the Historic American Building Survey (HABS) program. The documentation shall include the following:** • **A written description and narrative report following the most recent HABS Guidelines for Historical Reports, Outline Format.** • **Large format (4-inch by 5-inch or larger negative) photographs following the most recent HABS Photography Guidelines. Views shall include the setting; important site features; all exterior facades and wings, including the radiation facility and greenhouse; detailed views of significant exterior architectural features, such as the concrete screen, exterior window wall,**

TABLE 5-1
PROJECT LEVEL MITIGATION MEASURES AND LRDP CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES INCLUDED AS PART OF THE LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
		and glazed connector with visible interior stair; and interior views of significant spaces and features like the "atrium" space in the entrance pavilion. • **A site plan showing Warren Hall's location in relationship to the setting and surrounding streets.** • **A photo key using the site plan shall be included.** • **Duplicates of historic photographs and drawings, if available.** **A qualified professional who meets the requirements of the *Secretary of the Interior's Professional Qualifications Standards* for history, architectural history, or historic architecture, shall prepare the documentation. Upon completion, copies of the documentation materials shall be offered and sent to appropriate archives and repositories willing to accept the documentation, including the Southern California Information Center at California State University, Fullerton; UCLA Library, Special Collections; Los Angeles Public Library Central Library and/or local branch as appropriate; and local preservation organizations and historical societies that express interest.**
MM HIST-2	**Design**	**<u>Warren Hall Site Only</u>** **To commemorate Warren Hall's role in the history of nuclear medicine development, a publicly accessible interpretive program shall be developed with the assistance of a qualified architectural historian or historic preservation professional who meets the Secretary of the Interior's Professional Qualifications Standards. The interpretive program shall reflect the history of the Laboratory for Nuclear Medicine and Radiation Biology, which may include its precursor, the UCLA Atomic Energy Project and its association with the Atomic Energy Commission, as well as the medical and scientific achievements of the laboratory once it was housed at Warren Hall. The program shall also include a discussion of Warren Hall's architectural design as well as architects Neptune & Thomas.** **Creative solutions regarding medium and format of the interpretive program are encouraged, but all interpretive materials shall be accessible to the general public and displayed in a setting that is appropriate within the context of Warren Hall as well as open and inviting in nature (e.g., an exhibit at UCLA Library, Special Collections, a video documentary, an online website, an on-site display at the replacement development). Interpretive media shall include both text and graphics, which may include historic photographs, maps, architectural drawings, or other imagery.** **The interpretative program shall be completed and available to the public prior to or upon completion of the proposed student project at the Warren Hall site.**
		Geology and Soils
PP 4.5-1(a)	Design	During project-specific building design, a site-specific geotechnical study shall be conducted under the direct supervision of a California Registered Engineering Geologist or licensed Geotechnical Engineer to assess detailed seismic, geological, soil, and groundwater conditions at each construction site and develop recommendations to prevent or abate any identified hazards in accordance with the requirements of the applicable California Building Code in effect at the time of construction. Recommendations from the site-specific geotechnical study shall be included in the grading plans and/or building design specifications for each project. The study shall follow applicable recommendations of CGS Special Publication 117 and shall include, but not necessarily be limited to: • Determination of the locations of any suspected fault traces and anticipated ground acceleration at the building site;

TABLE 5-1
PROJECT LEVEL MITIGATION MEASURES AND LRDP CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES INCLUDED AS PART OF THE LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
		• Potential for displacement caused by seismically induced shaking, fault/ground surface rupture, liquefaction, differential soil settlement, expansive and compressible soils, landsliding, or other earth movements or soil constraints; • Evaluation of depth to groundwater.
PP 4.5-1(c)	Design and Operation	The campus shall continue to comply with the University Policy on Seismic Safety effective on May 19, 2017 or with any subsequent revision to the policy that provides an equivalent or higher level of protection with respect to seismic hazards.
PP 4.5-1(d)	Design	Development projects under the LRDP Amendment shall continue to be subject to structural peer review; following this review, any site specific geotechnical study recommendations, including any recommendations added as a result of the peer review, shall be incorporated in the project design, as appropriate.
MM GEO-1	**Design**	**<u>Lot 15, Warren Hall, UNEX and Bradley Sites Only</u>** **Prior to approval of final building designs for the Lot 15, Warren Hall, UNEX, and Bradley Student Housing Projects, a qualified Engineer shall review the final designs to verify that all geotechnical recommendations provided in the Preliminary and all subsequent site-specific Geotechnical Investigations for the project sites have been fully and appropriately incorporated. At a minimum, the recommendations of the following shall be incorporated: *Preliminary Geotechnical Investigation, Proposed Student Housing Development, UCLA – Lot 15, Los Angeles, California* (dated January 18, 2017 and prepared by Geocon West); *Preliminary Geotechnical Investigation, Proposed Student Housing Development, 900 Weyburn Place, Los Angeles, California* (dated December 23, 2016 and prepared by Geocon West); *Preliminary Geotechnical Investigation, Proposed Student Housing Development, 10995 Le Conte Avenue, Los Angeles, California* (dated December 29, 2016 and prepared by Geocon West); and *Preliminary Geotechnical Investigation, Proposed Student Housing Development, Northeast Corner of Gayley Avenue and Strathmore Drive, Los Angeles, California* (dated December 29, 2016 and prepared by Geocon West). The recommendations for the Lot 15, Warren Hall, UNEX, and Bradley sites would include, but not be limited to, the following geotechnical engineering topics:** • **Grading;** • **Shrinkage;** • **Foundation Design;** • **Deepened Foundation Design and Installation;** • **Foundation Settlement;** • **Miscellaneous Foundations;** • **Lateral Design;** • **Concrete Slabs-on-Grade;** • **Pavement Recommendations;** • **Retaining Wall Design and Drainage;** • **Dynamic (Seismic) Lateral Forces;** • **Elevator Pit Design;** • **Elevator Piston;** • **Temporary Excavations;** • **Shoring – Soldier Pile Design and Installation;** • **Tie-Back Anchors and Anchor Installation and Testing;**

TABLE 5-1
PROJECT LEVEL MITIGATION MEASURES AND LRDP CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES INCLUDED AS PART OF THE LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
		• **Internal Bracing;** • **Storm Water Infiltration;** • **Surface Drainage; and/or** • **Plan Review.**
		Greenhouse Gas Emissions
PP 4.15-1	Design and Operation	The campus shall continue to implement provisions of the UC Policy on Sustainability Practices including, but not limited to: Green Building Design; Clean Energy Standards; Climate Protection Practices; Sustainable Transportation Practices; Sustainable Operations; Recycling and Waste Management; Environmentally Preferable Purchasing Practices; and provisions of the applicable UCLA Climate Action Plan.
		Hazards and Hazardous Materials
PP 4.6-1	Construction and Operation	The campus shall continue to implement the same (or equivalent) health and safety plans, programs, practices, and procedures related to the use, storage, disposal, or transportation of hazardous materials during the LRDP Amendment planning horizon, including, but not necessarily limited to, the Business Plan, Hazardous Materials Management Program, Hazard Communication Program, Injury and Illness Prevention Program, Chemical Exposure Monitoring Program, Asbestos Management Program, Respiratory Protection Program, EH&S procedures for decommissioning and demolishing buildings that may contain hazardous materials, and the Broadscope Radioactive Materials License. These programs may be subject to modification as more stringent standards are developed or if the programs become obsolete through replacement by other programs that incorporate similar health and safety protection measures.
PP 4.6-4	Construction	While not expected to occur on-campus, if contaminated soil and/or groundwater is encountered during the removal of on-site debris or during excavation and/or grading activities, the construction contractor(s) shall stop work and immediately inform the EH&S. An on-site assessment shall be conducted to determine if the discovered materials pose a significant risk to the public or construction workers. If the materials are determined to pose such a risk, a remediation plan shall be prepared and submitted to the EH&S to comply with all federal and State regulations necessary to clean and/or remove the contaminated soil and/or groundwater. Soil remediation methods could include, but are not necessarily limited to, excavation and on-site treatment, excavation and off-site treatment or disposal, and/or treatment without excavation. Remediation alternatives for cleanup of contaminated groundwater could include, but are not necessarily limited to, on-site treatment, extraction and off-site treatment, and/or disposal. The construction schedule shall be modified or delayed to ensure that construction will not inhibit remediation activities and will not expose the public or construction workers to significant risks associated with hazardous conditions.
MM HAZ-1	**Pre-construction**	**<u>Lot 15 Site Only</u>** **Prior to initiation of demolition activities at building M on the Lot 15 site, samples from the area where fluids have leaked from an existing transformer onto concrete shall be collected and submitted for laboratory analysis to determine whether any hazardous substance is present in the media sampled, which would include the fluid (surface wipe sample), concrete floor (bulk sample or core), and/or soil (bulk sample) underlying the concrete. If a hazardous substance is are detected, a Remediation Plan shall be prepared and submitted to the Office of Environment, Health, and Safety (EH&S) to comply with all federal and State regulations necessary to clean and/or remove the affected media. The transformer, any concrete that has come into contact with the fluid (as evidenced by staining), and, if applicable, soil impacted by the fluid shall be removed/excavated and disposed of in an appropriate facility, possibly as**

TABLE 5-1
PROJECT LEVEL MITIGATION MEASURES AND LRDP CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES INCLUDED AS PART OF THE LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
		hazardous waste depending on the concentrations of the substance present in the impacted media. Evidence that there are no concentrations of the identified substance(s) above the U.S. Environmental Protection Agency's Regional Screening Levels (RSLs) for residential use applicable to the substance(s) shall be provided to EH&S before demolition of building M begins.
		Hydrology and Water Quality
PP 4.7-1	Construction and Operation	Construction and operation of projects on campus shall comply with requirements and water quality standards set forth within current NPDES Permit regulations (Phase I and Phase II) at the time of project approval. Pursuant to Phase I permit requirements, UCLA shall develop a Storm Water Pollution Prevention Plan (SWPPP) that incorporates Best Management Practices (BMPs) for reducing or eliminating construction-related and post-construction pollutants in site runoff, including but not limited to the BMPs listed in MM 4.7-1.
PP 4.7-5	Design	Site-specific hydrologic evaluation shall be conducted for each proposed development project based on the project-specific grading plan and site design of each individual project. This evaluation shall include, but not be limited to: (1) an assessment of runoff quality, volume and flow rate from the proposed project site; (2) identification of project-specific BMPs (structural and non-structural) to reduce the runoff rate and volume to appropriate levels, including but not limited to the BMPs listed in MM 4.7-1; and (3) identification of the need for new or upgraded storm drain infrastructure (on and off campus) to serve the project. Project design shall include measures to upgrade and expand campus storm drain capacity where necessary, as identified through the project-specific hydrologic evaluation. Design of future projects shall include measures to reduce runoff, including, but not limited to, the provision of permeable landscaped areas adjacent to structures to absorb runoff and the use of pervious or semi-pervious paving materials.
MM 4.7-1	Design, Pre-Construction and Construction	Best Management Practices (BMPs) shall be implemented for individual development projects, to the extent required by State law, to ensure compliance is maintained with all applicable NPDES requirements at the time of project construction. UCLA shall utilize BMPs as appropriate and feasible to comply with and/or exceed the current requirements under the NPDES program. BMPs that may be implemented include, but are not limited to, the following: Non-Structural/Structural • Landscape Maintenance • Catch Basin Stenciling and Clean-out • Efficient Irrigation Practices • Litter Control • Fertilizer Management • Public Education • Efficient Irrigation • Permanent Vegetative Controls • Runoff – Minimizing Landscape Design Treatment Control BMPs (to minimize storm water pollutants of concern for Ballona Creek - Sediment, Bacteria/Viruses, Toxicity, Trash, and Metals): • Vegetated Swale(s) – An open, shallow channel with vegetation covering side slopes and the bottom.

TABLE 5-1
PROJECT LEVEL MITIGATION MEASURES AND LRDP CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES INCLUDED AS PART OF THE LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
		• Bioretention – A basin that functions as a soil and plant-based filtration device that removes pollutants through a variety of physical, biological, and chemical treatment processes. • Turf Block – A grass area that has a structural component which allows it to be used in drive aisles and parking lots. • Drain Inserts – A manufactured filter placed in a drop inlet to remove sediment and debris.
Land Use and Planning		
PP 4.8-1(a)	Design	<u>UNEX Site Only</u> Development of the south edge of the main campus shall be designed to enhance the campus interface with Westwood Village.
PP 4.8-1(b)	Design	<u>Drake Stadium Site Only</u> The existing recreational fields in the Central zone of campus shall be maintained and will continue to provide a buffer between campus development and the residential uses north of Sunset Boulevard.
PP 4.8-1(c)	Design	Infill development of the campus shall be continued, which reduces vehicle miles traveled and energy consumption.
PP 4.8-1(d)	Design	New building projects shall be sited to ensure compatibility with existing uses and the height and massing of adjacent facilities.
PP 4.8-1(e)	Design	Facilities shall be sited and designed to enhance spatial development of the campus while maximizing use of limited land resources.
Noise and Vibration		
PP 4.9-1	Design	The campus shall continue to evaluate ambient noise conditions when placing new student housing near regular sources of noise such as roadways, the on-campus helistop and stationary equipment, and design the new buildings to ensure that interior noise levels would be less than 45 dBA CNEL.
PP 4.9-6(a)	Design	The campus shall continue to shield all new stationary sources of noise that would be located in close proximity to noise-sensitive buildings and uses.
PP 4.9-6(b)	Design	The campus shall continue to provide a landscaped buffer along the western, northern, and eastern edges of the main campus in order to maximize the distance between the roadways and new buildings and provide an acoustically soft environment. At a minimum, this environment can be provided by planting grass and other low landscaping.
PP 4.9-7(a)	Construction	To the extent feasible, construction activities shall be limited to 7:00 A.M. to 9:00 P.M. Monday through Friday, 8:00 A.M. to 6:00 P.M. on Saturday, and no construction on Sunday and national holidays, as appropriate, in order to minimize disruption to area residences surrounding the campus and to on-campus uses that are sensitive to noise.
PP 4.9-7(b)	Construction	The campus shall continue to require by contract specifications that construction equipment be required to be muffled or otherwise shielded. Contracts shall specify that engine-driven equipment be fitted with appropriate noise mufflers.
PP 4.9-7(c)	Construction	The campus shall continue to require that stationary construction equipment material and vehicle staging be placed to direct noise away from sensitive receptors.
PP 4.9-7(d)	Pre-construction and Construction	The campus shall continue to conduct regular meetings with on-campus constituents to provide advance notice of construction activities in order to coordinate these activities with the academic calendar, scheduled events, and other situations, as needed.

TABLE 5-1
PROJECT LEVEL MITIGATION MEASURES AND LRDP CAMPUS PROGRAMS, PRACTICES AND PROCEDURES AND MITIGATION MEASURES INCLUDED AS PART OF THE LRDP AMENDMENT (2017) AND STUDENT HOUSING PROJECTS

MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
PP 4.9-8	Construction	The campus shall continue to conduct meetings, as needed, with off-campus constituents that are affected by campus construction to provide advance notice of construction activities and ensure that the mutual needs of the particular construction project and of those impacted by construction noise are met, to the extent feasible.
MM 4.9-2	Pre-construction and Construction	The campus shall require by contract specifications that, to the extent feasible, large bulldozers, large heavy trucks, and other similar equipment not be used within 43 feet of occupied residence halls, within 34 feet of non-residential/non-sensitive buildings, and within 135 feet of buildings that house sensitive instrumentation or similar vibration-sensitive equipment or activities. The work shall be done with medium-sized equipment or smaller within these prescribed distances to the extent practicable.
MM 4.9-7	Pre-construction	A solid noise barrier that would break the line of sight between the construction site and a sensitive use area would reduce construction noise by at least 5 dBA. Therefore, when detailed construction plans are complete, the campus shall review the locations of sensitive receptor areas in relation to the construction site. If it is determined that a 12-foot-high barrier would break the line of sight between an 11-foot-high noise source and adjacent sensitive use areas, a temporary barrier shall be erected to the extent practicable. The barrier shall be solid from the ground to the top, with no openings, and shall have a weight of at least 3 pounds per square foot, such as plywood that is ½-inch thick.
MM NSE-1	**Pre-construction and Construction**	**The campus shall require by Contractor Specifications that, to the extent feasible, construction equipment that would be anticipated to have noise levels exceeding 75 A-weighted decibels (dBA) at 50 feet with standard mufflers be equipped with mufflers with enhanced noise attenuation, commonly identified as "critical grade" or "hospital grade" mufflers.**
Public Services and Recreation		
PP 4.11-1	Design	Fire alarm connections to the University Police Command Center shall continue to be provided in all new and renovated buildings to provide immediate location information to the Los Angeles Fire Department to reduce response times in emergency situations.
PP 4.11-2(a)	Design and Operation	Police staffing levels and equipment needs shall continue to be assessed on an ongoing basis as individual development projects are proposed and on an annual basis during the campus budgeting process to ensure that the appropriate service levels will be maintained to protect an increased campus population and an increased level of development.
PP 4.11-2(b)	Design and Operation	Annual meetings shall continue to be attended by the Director of UCLA Housing and the UCPD to evaluate the adequacy of police protection service for University owned housing, assess institutional priorities and budgetary requirements, and identify and implement appropriate actions to ensure the continued adequacy of police protection services for resident students.
PP 4.12-1(a)	Design and Operation	The campus shall continue to provide, operate, and maintain recreational facilities for students, faculty, and staff on campus.
PP 4.12-1(b)	Design and Operation	The campus shall continue to integrate landscaped open space (including plazas, courts, gardens, walkways, and recreational areas) with development to encourage use through placement and design.

TABLE 5-1
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MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
Transportation/Traffic		
PP 4.13-1(a)	Operation	The campus shall continue to maintain the 1990 LRDP vehicle trip cap of 139,500 average daily trips.
PP 4.13-1(b)	Operation	The campus shall continue to maintain the 1990 LRDP parking cap of 25,169 spaces.
PP 4.13-1(c)	Design and Operation	The campus shall continue to provide on-campus housing to continue the evolution of UCLA from a commuter to a residential campus.
PP 4.13-1(d)	Operation	The campus shall continue to implement a TDM program that meets or exceeds all trip reduction and AVR requirements of the SCAQMD. The TDM program may be subject to modification as new technologies are developed or alternate program elements are found to be more effective.
PP 4.13-2	Pre-construction and Construction	UCLA Capital Programs will assess construction schedules of major projects to determine the potential for overlapping construction activities to result in periods of heavy construction vehicle traffic on individual roadway segments, and adjust construction schedules, work hours, or access routes to the extent feasible to reduce construction-related traffic congestion.
PP 4.13-5	Construction	To the extent feasible, the campus shall maintain at least one unobstructed lane in both directions on campus roadways. At any time only a single lane is available, the campus shall provide a temporary traffic signal, signal carriers (i.e., flagpersons), or other appropriate traffic controls to allow travel in both directions. If construction activities require the complete closure of a roadway segment, the campus shall provide appropriate signage indicating alternative routes.
PP 4.13-6	Construction	For any construction-related closure of pedestrian routes, the campus shall provide appropriate signage indicating alternative routes and provide curb cuts and street crossings to assure alternate routes are accessible.
PP 4.13-8	Pre-construction and Construction	To ensure adequate access for emergency vehicles when construction projects would result in temporary lane or roadway closures, UCLA shall consult with the UCPD, EH&S, and the LAFD to disclose temporary lane or roadway closures and alternative travel routes.
MM 4.13-11	Pre-Construction and Construction	To the extent that construction worker parking demand exceeds historical levels or available supply, off-site construction worker parking shall be provided with shuttle service to the remote parking location.
MM TRF-1	**Construction**	**<u>Lot 15, Warren Hall, UNEX and Bradley Sites</u>** **During demolition and grading activities for the Lot 15, Warren Hall, UNEX and Bradley sites, UCLA shall restrict the total combined number of heavy trucks trips to no more than 24 passenger car equivalents per hour between 7:00 AM and 9:00 AM. This requirement shall be included on the contractor specifications and verified by Capital Programs.**
Utilities and Service Systems		
PP 4.14-2(a)	Design	New facilities and renovations (except for patient care facilities in the Medical Center) shall be equipped with low-flow showers, toilets, and urinals.
PP 4.14-2(b)	Operation	Measures to reduce landscaping irrigation needs shall be used, such as automatic timing systems to apply irrigation water during times of the day when evaporation rates are low, installing drip irrigation systems, using mulch for landscaping, subscribing to the California Irrigation Management Information System Network for current information on weather and evaporation rates, and incorporating drought-resistant plants as appropriate.

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MM and PP Number	Mitigation Timing	Project- and LRDP-level Mitigation Measure(s) (MMs) and LRDP Campus Programs, Practices, and Procedures (PPs)
PP 4.14-2(c)	Operation	The campus shall promptly detect and repair leaks in water and irrigation pipes.
PP 4.14-2(d)	Operation	The campus shall minimize the use of water to clean sidewalks, walkways, driveways, and parking areas.
PP 4.14-2(e)	Operation	The campus shall avoid serving water at UCLA food service facilities except upon request.
PP 4.14-2(g)	Operation	The campus shall educate the campus community on the importance of water conservation measures.
PP 4.14-3	Operation	The campus shall continue to implement a solid waste reduction and recycling program designed to limit the total quantity of campus solid waste that is disposed of in landfills during the LRDP plan horizon.
PP 4.14-5	Design	As part of the design process for proposed projects, an evaluation of the on campus sewer conveyance capacity shall be undertaken, and improvements provided if necessary in order to ensure that connections are adequate and capacity is available to accommodate estimated flows.
PP 4.14-9	Design and Operation	The campus shall continue to implement energy conservation measures (such as energy-efficient lighting and microprocessor-controlled HVAC equipment) to reduce the demand for electricity and natural gas. The energy conservation measures may be subject to modification as new technologies are developed or if current technologies become obsolete through replacement.

Attachment A

No Further Action Letters Issued by the Los Angeles Regional Water Quality Control Board

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

September 27, 2012

Ms. Deborah Pryor
Shell Oil Products US
20945 South Wilmington Avenue
Carson, CA 90810

UNDERGROUND STORAGE TANK PROGRAM – CASE CLOSURE
SHELL SERVICE STATION NO. 204-4530-4007
900 GAYLEY AVENUE, LOS ANGELES (CASE NO. 900240025) (PRIORITY D – 1)
(GLOBAL ID NO. T0603702039)

Dear Ms. Pryor:

This letter confirms the completion of a site investigation and corrective action for the underground storage tank(s) formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground tank(s) site is in compliance with the requirements of subdivision (a) and (b) of section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (g) of section 25296.10 of the Health and Safety Code.

Claims for reimbursement of corrective action costs submitted to the Underground Storage Tank Cleanup Fund more than 365 days after the date of this letter or issuance or activation of the Fund's Letter of Commitment, whichever occurs later, will not be reimbursed unless one of the following exceptions applies:

☐ Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or

☐ Submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

If you have groundwater monitoring wells or vapor extraction wells at the subject property, you must comply with the following:

1. All wells must be located and properly abandoned.

2. Well abandonment permits must be obtained from the Los Angeles County Department of Public Health, Environmental Health Division, and all other necessary permits must be obtained from the appropriate agencies prior to the start of work.

3. You must submit a report on the abandonment of the wells to this office by **January 15, 2013**. This report must include, at a minimum, a site map, a description of the well abandonment process, and copies of all signed permits.

If you have any questions regarding this matter, please contact Mr. Daniel P. Pirotton at (213) 576 – 6714 or at dpirotton@waterboards.ca.gov

Sincerely,

Samuel Unger, P.E.
Executive Officer

cc: Ms. Kathy Jundt, State Water Resources Control Board,
Underground Storage Tank Cleanup Fund
Ms. Phuong Ly, Water Replenishment District of Southern California
Captain Matthew Gatewood, Los Angeles City Fire Department,
Underground Storage Tank Program
Mr. Eloy Luna, Los Angeles City Fire Department,
Underground Storage Tank Program
Ms. Cristi Farrell, Wayne Perry
Mr. Steven S. Cruise

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

July 1, 2014

Ms. Kelly Esters
Chevron Environmental Management Company
6101 Bollinger Canyon Road, Suite 5303
San Ramon, CA 94583

UNDERGROUND STORAGE TANK PROGRAM – CASE CLOSURE
CHEVRON SERVICE STATION #9-3100
10984 LE CONTE AVENUE, LOS ANGELES
(CASE NO. 900240052) (Priority D-1/EAOP)

Dear Ms. Esters:

This letter confirms the completion of a site investigation and corrective action for the underground storage tank(s) formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground tank(s) site is in compliance with the requirements of subdivision (a) and (b) of section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (g) of section 25296.10 of the Health and Safety Code.

Claims for reimbursement of corrective action costs submitted to the Underground Storage Tank Cleanup Fund more than 365 days after the date of this letter or issuance or activation of the Fund's Letter of Commitment, whichever occurs later, will not be reimbursed unless one of the following exceptions applies:

- Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or

- Submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

If you have any questions concerning this matter, please contact Ms. Chandra Tyler at (213) 576-6782 or email her at cetyler@waterboards.ca.gov.

Sincerely,

Samuel Unger

Samuel Unger, PE
Executive Officer

cc: Kathy Jundt, State Water Resources Control Board,
Underground Storage Tank Cleanup Fund
Phuong, Ly, Water Replenishment District of Southern California
Eloy Luna, City of Los Angeles Fire Department, Underground Tanks
Hani Malki, City of Los Angeles Fire Department, Underground Tanks
Gregg Reed, City of Los Angeles, Department of Water & Power,
Water Quality Division
Raymond Chan, Executive Officer, City of Los Angeles, Department of Building & Safety
Taura Nichols, Arcadis
Prince Le Conte & Gayley LLC, Lyman & Prince Overton
Chuck Bell, Prince Le Conte & Gayley LLC

Attachment B

Annual State of the Commute Report
Prepared by UCLA

UCLA

STATE OF THE COMMUTE

AN ANNUAL REPORT | JANUARY - DECEMBER 2016

PREPARED BY UCLA TRANSPORTATION

UCLA

STATE OF THE COMMUTE

AN ANNUAL REPORT | JANUARY - DECEMBER 2016

A LETTER FROM THE EXECUTIVE DIRECTOR

December 2016

For more than three decades, UCLA has been committed to getting its commuters out of their cars and into more sustainable transportation modes as a way to ease traffic on campus and in the surrounding community, and decrease the University's overall carbon footprint. As more students, staff, and faculty have left their vehicles behind and chosen alternative transportation options like public transit, vanpools, carpools, biking, and walking, UCLA has become a more sustainable, safer, and healthier campus for everyone.

Promoting public transit through subsidized transit passes has been key to our success. This year, we strengthened the transit payment process for the campus community by placing transit passes for our most popular transit service providers on one easy-to-use TAP card. In addition, we coordinated with Santa Monica Big Blue Bus to provide more accessible and covenient Rapid 12 service for commuters using the new Expo Line Phase II Extension, which gets riders to campus in just minutes.

When it comes to active transportation options, we greatly enhanced the University's built environment to support bicycling and walking by adding more bike lanes and bike racks, while installing an innovative bike channel and contra-flow bike lanes for easier access through campus. With over 3,000 bicyclists now arriving to campus each day – double what our bike community was a decade ago – there's more to come, including an exciting campus bike share program launching in 2017.

In order to keep our increasing pedestrian population safe, UCLA has enhanced campus crosswalks with piano key striping and added a crosswalk scramble at one of our busiest intersections. In 2017, speed limits will be reduced campuswide to 20 miles per hour.

UCLA Transportation has worked hard to reduce vehicle traffic on campus, and the results speak for themselves. Since 1987, the UCLA employee drive-alone rate has fallen from 74% to 53% – far lower than LA County as a whole, where roughly 74% of all commuters drive alone to work. While less than 4% of Angelenos bike or walk as their commute mode, 36% of UCLA commuting students and 9% of our employees are pedestrians or bike commuters. And compared to the 6% of LA County commuters who use public transit, 17% of UCLA employees and 28% of students commute by bus.

Still, there is more to do. Through sound planning and strategic partnerships, UCLA will continue to make the campus and surrounding area a safer, healthier, and more accessible place to work, learn, and visit. I invite you to review our most recent transportation successes in this year's report.

Sincerely,

Renée A. Fortier

Executive Director

UCLA Transportation

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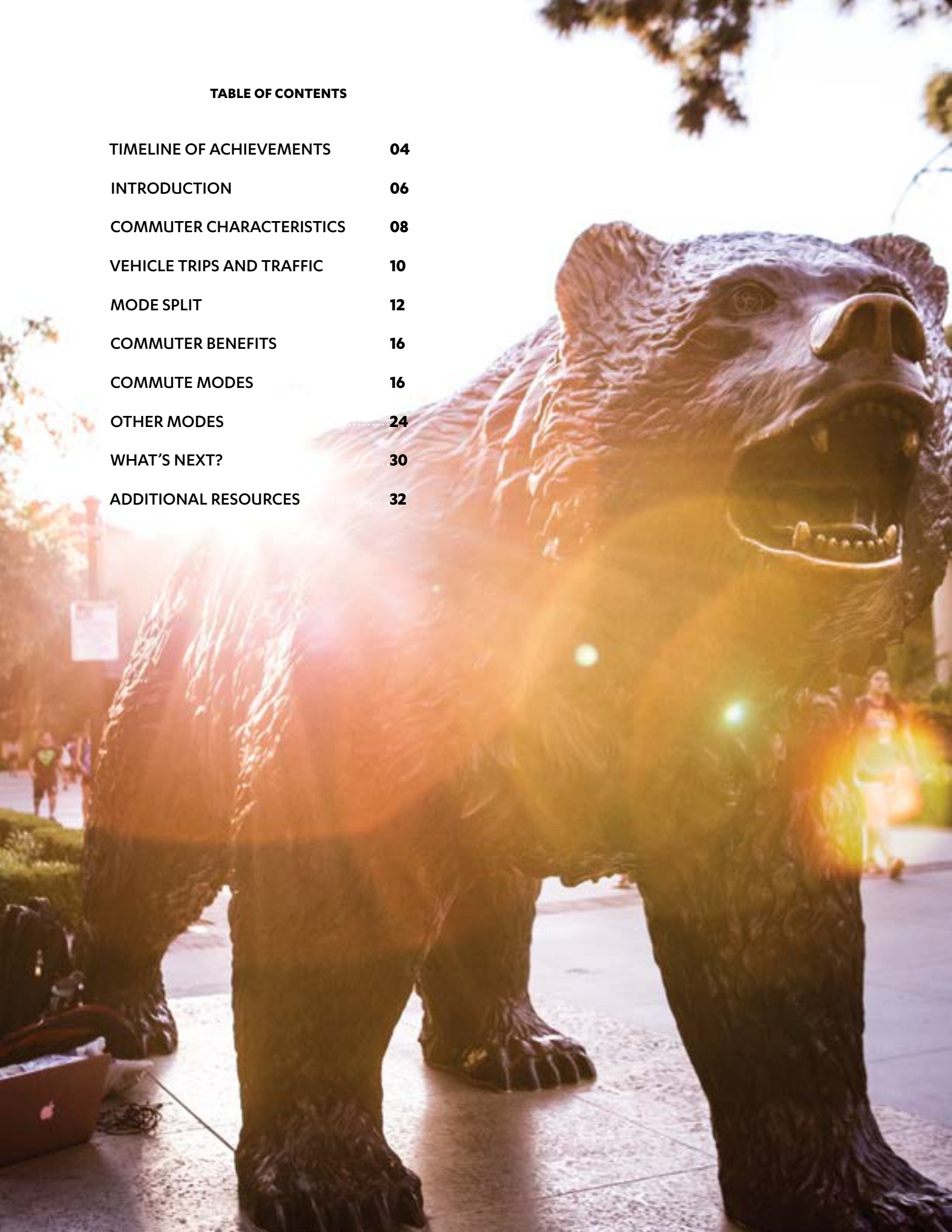


2016

UCLA introduces two all-electric, zero-emission buses to its campus shuttle service

1984

UCLA Transportation launches employee commuter vanpool program.

1987

UCLA Transportation develops Transportation Demand Management Plan, setting long-range traffic reduction targets for the University.

1990

UCLA publishes Long Range Development Plan, setting vehicle trip caps and parking space caps to counter increasing campus construction projects.

2002

BruinGO! subsidized transit pass program begins for Santa Monica Big Blue Bus and Culver CityBus routes, following pilot program started in 2000.

2005

Go Metro subsidized transit pass program begins for Los Angeles County Metro Bus and Metro Rail, and LADOT commuter bus routes.

2006

UCLA Transportation publishes Bicycle Master Plan in an effort to establish campus bike program.

2008

UCLA publishes Climate Action Plan, establishing campuswide goals to reduce greenhouse gas emissions.

2011

UCLA Transportation implements Bruin Commuter Club, offering incentives for alternative transportation participants.

UCLA receives Bronze status as Bicycle Friendly University by the League of American Bicyclists.

2014

UCLA Transportation publishes Sustainable Transportation Plan, highlighting goals and strategies set forth by the campus' Climate Action Plan to reduce greenhouse gas emissions.

2015

UCLA recognized with the Governor's Environmental and Economic Leadership Award (GEELA), the state's highest environmental honor.

UCLA receives upgraded Silver status as Bicycle Friendly University by the League of American Bicyclists.

INTRODUCTION

UCLA is a premier teaching, research, and public service institution located in the most traffic congested city in the United States. Los Angeles also experiences some of the worst air pollution in the country. Its infamous car culture has long dominated mobility in the city and region, and emissions from internal combustion engines have greatly impacted air quality in the LA basin and beyond.

UCLA, however, has for decades expended efforts to reduce vehicle traffic to and from its Westwood campus, and is a leader in transportation demand management and alternative fuel vehicle use.

In this State of the Commute Report for 2016, we review the University's efforts to maintain sustainable transportation programs, analyze recent commute trends, and highlight notable achievements in our effort to reduce greenhouse gas emissions while making the campus a safer and more livable environment.

COMMUTER CHARACTERISTICS

So who exactly commutes to UCLA?

UCLA enrolled nearly 45,000 students during fall quarter 2016, continuing to host the largest student population on the smallest acreage of land of any campus in the UC system.

Over the last five years, University enrollment has increased by nearly 11%, with undergraduates increasing by nearly 14% and the graduate student population growing by over 4% (Figure 1). Though nearly 15,000 students reside on campus and are therefore not counted as commuters, more than 30,000 students commute from their off-campus residences to the University each school day. More than 5,000 faculty and academic staff and nearly 26,000 staff members (not including residents, interns, graduate assistants, or other part-time workers) are employed at UCLA (Table 1). Of the total population (76,180), 61,520 commute to campus on a regular basis (Table 2).

UCLA commuters are far less likely than their fellow commuters in Los Angeles County to travel alone in their automobile. The drive-alone rate for UCLA employees in 2016 was close to 53%, while the drive-alone for UCLA students came in at just over 25% (Figure 2). In contrast, the drive-alone rate for all LA County commuters was nearly 74% in 2015 (the latest available year for this data).

University commuters used alternative transportation modes at a rate far higher than Los Angeles commuters as a whole, a pattern that held true for all major modes. Nearly 9% of UCLA employees (and more than 36% of commuting students) were pedestrians or bicycle commuters, options exercised by less than 4% of LA County commuters. Seventeen percent of UCLA employees and 28% of students commuted by public transit, compared to only 6% for all of LA County. Finally, more than 16% of UCLA employees commuted by carpool or vanpool, while 9% of LA County commuters used one of these modes.

TABLE 1. CAMPUS POPULATION

Students	**44,947**
Undergraduate [1]	**30,873**
On-Campus [2]	**12,805**
Off-Campus	**18,068**
Graduate [1]	**14,074**
On-Campus [2]	**1,855**
Off-Campus	**12,219**
Faculty & Academic Staff	**5,432**
Staff	**25,801**
Total Campus Population	**76,180**

1 UCLA Office of Analysis & Information Management

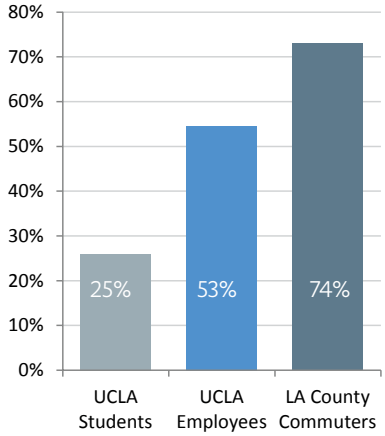
2 UCLA Housing, November 2016

TABLE 2. COMMUTER POPULATION

Faculty & Staff	**31,233**
Off-Campus Students	**30,287**
Undergraduate	**18,068**
Graduate	**12,219**
Total Commuters	**61,520**

Source: UCLA Office of Analysis & Information Management

FIGURE 2. COMMUTER DRIVE-ALONE RATE



Sources: UCLA SCAQMD Survey, UCLA Spring Student Survey, American Community Survey

FIGURE 1. UCLA STUDENT ENROLLMENT, 1990-2016

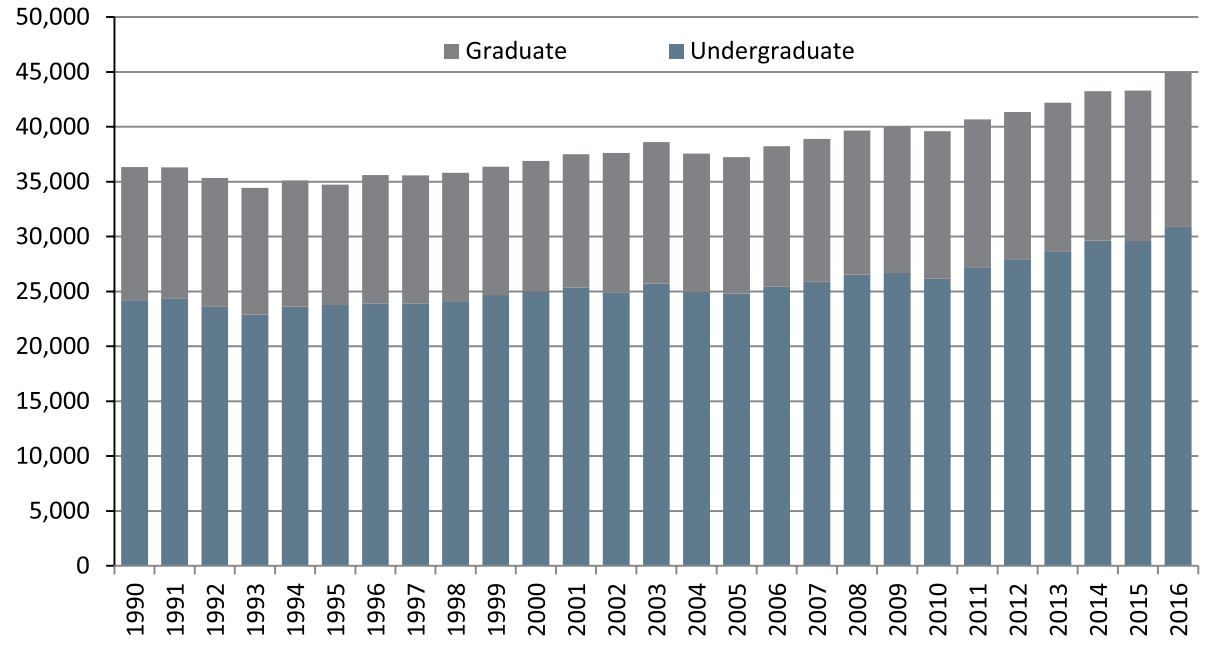
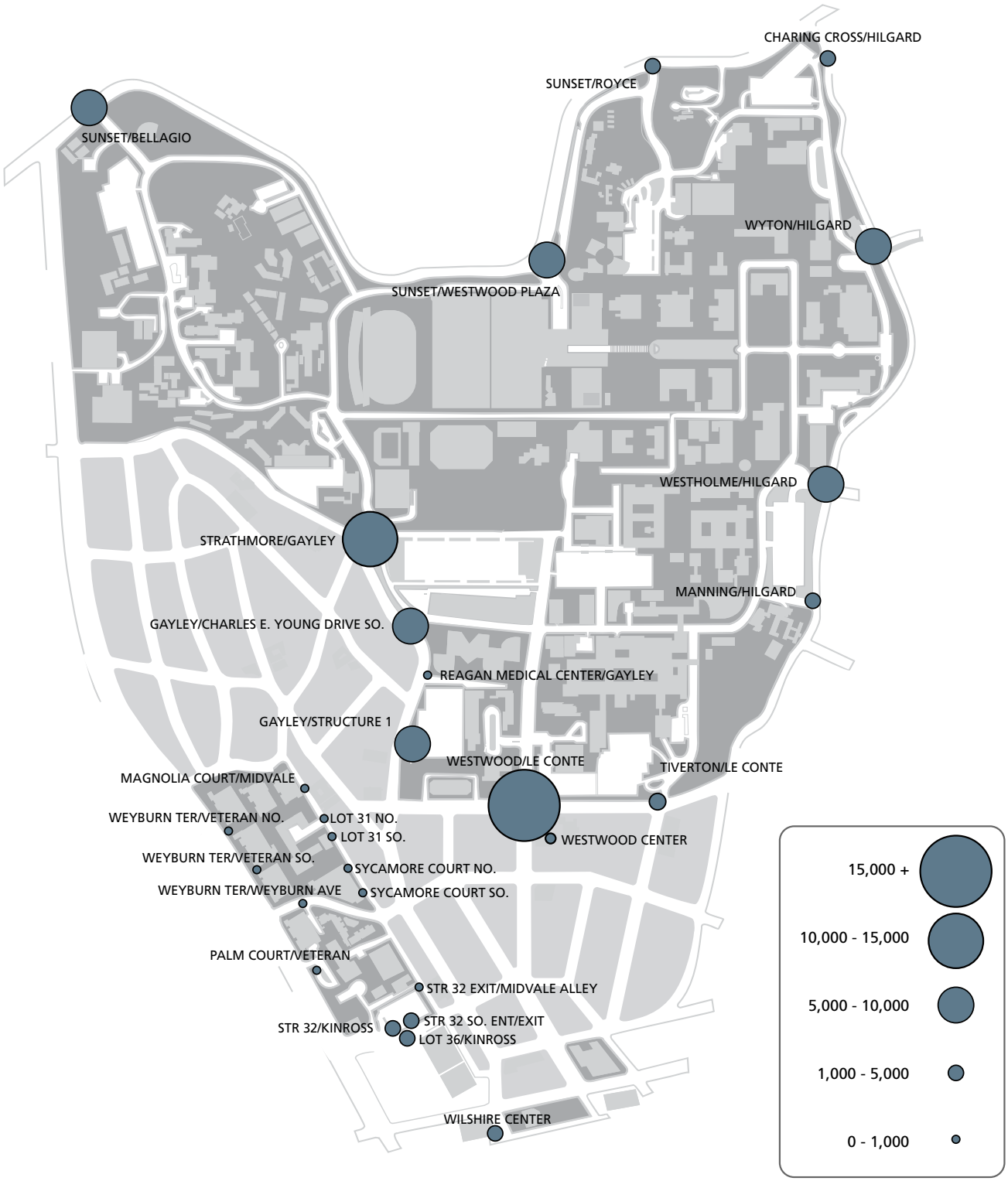


FIGURE 4. 2016 TRAFFIC VOLUMES BY INTERSECTION AT UCLA



VEHICLE TRIPS AND TRAFFIC

UCLA Transportation conducts a cordon count during the fall quarter each year in order to track the number of trips made to/from campus by vehicles over the course of one week (Figure 3). The number of vehicle trips on campus increased this year compared to the previous year. An average of 105,284 daily trips were taken to or from campus in 2016, an increase of 4% compared to 2015 (Table 3). However, this total represents a slight decrease compared to 2010, despite a campus population increase of 17% during the same period. The most heavily used gateway to campus is Westwood Plaza at Le Conte Avenue, which accounts for 16% of vehicle trips (Figure 4).

FIGURE 3. AVERAGE DAILY VEHICLE TRIPS TO/FROM UCLA, 1991-2016

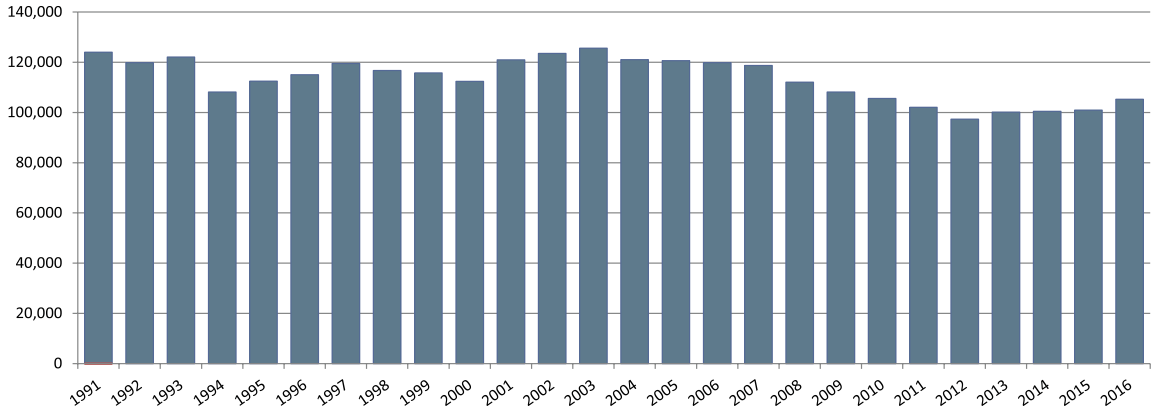


TABLE 3. AVERAGE DAILY VEHICLE TRIPS TO/FROM UCLA, 2010-2016

	2010	2011	2012	2013	2014	2015	2016
Main Campus	91,169	88,906	82,428	87,081	87,324	86,998	90,612
Southwest Campus	12,758	11,741	12,977	11,164	11,235	12,034	12,640
Wilshire Center	2,058	2,058	1,922	1,996	2,002	2,001	2,080
Westwood Center	0	0	672	708	710	720	750
Bus Trip Subtraction	402	678	775	785	780	792	798
Total	**105,584**	102,027	97,224	100,163	100,491	100,961	**105,284**

Source: UCLA Cordon Count Reports

Note: All numbers are rounded five-day averages; therefore, the totals may not match the sum of components.

MODE SPLIT

UCLA Transportation conducts two surveys annually that capture the commute habits of the University community: one for employees (SCAQMD Survey) and one for students (Student Transportation Survey).

The SCAQMD Survey satisfies the South Coast Air Quality Management District's regulatory requirement for large employers (over 250 employees) to report the organization's average vehicle ridership (AVR), which signifies the ratio of people to vehicles arriving at the worksite. The higher the AVR, the fewer vehicles there are in relationship to the population, which means more employees are carpooling, taking public transit, walking, telecommuting or engaging in some other alternative commute mode or work schedule. In 2016, UCLA achieved an AVR of 1.66, well above SCAQMD's regulatory required target for compliance of 1.50.

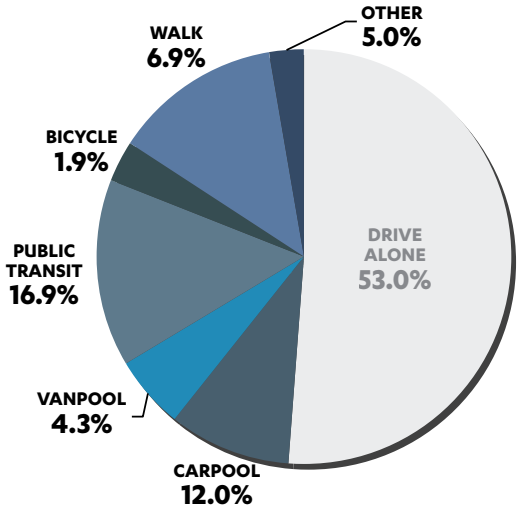
The Student Transportation Survey provides information on the travel patterns of undergraduate and graduate students residing both on and off campus. These two surveys are the sources for all UCLA mode split information contained in this report.

TABLE 4. UCLA 2016 MODE SPLIT

	Employees	Students
Drive Alone	53.0%	25.0%
Carpool	12.0%	6.2%
Vanpool	4.3%	0.1%
Public Transit	16.9%	28.0%
Bike	1.9%	5.4%
Walk	6.9%	30.9%
Other	5.0%	4.4%

Sources:
2016 UCLA SCAQMD Survey, 2016 UCLA Student Transportation Survey

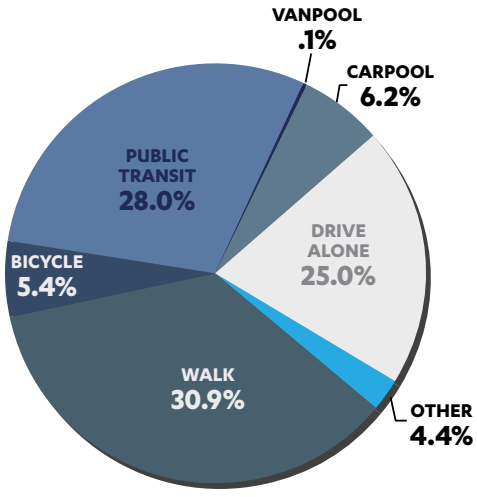
FIGURE 5. COMMUTING EMPLOYEE MODE SPLIT, 2016



Approximately 39% of all UCLA commuters drive alone to campus, including 53% of employees and 25% of commuting students (Table 4). The remaining 61% of all commuters travel to UCLA by some form of alternative transportation, including carpool, vanpool, public transit, bicycling, and walking (Figure 7).

Non-motorized transportation modes (bikes, scooters, pedestrians) account for more than 23% of all commuters, making this the largest block of alternative transportation users. Walkers constitute nearly 19% of all commuters, including nearly 7% of employees (Figure 5) and close to 31% of students (Figure 6). Nearly 4% of commuters bicycle to UCLA, including 1.9% of employees and more than 5% of students.

FIGURE 6. COMMUTING STUDENT MODE SPLIT, 2016



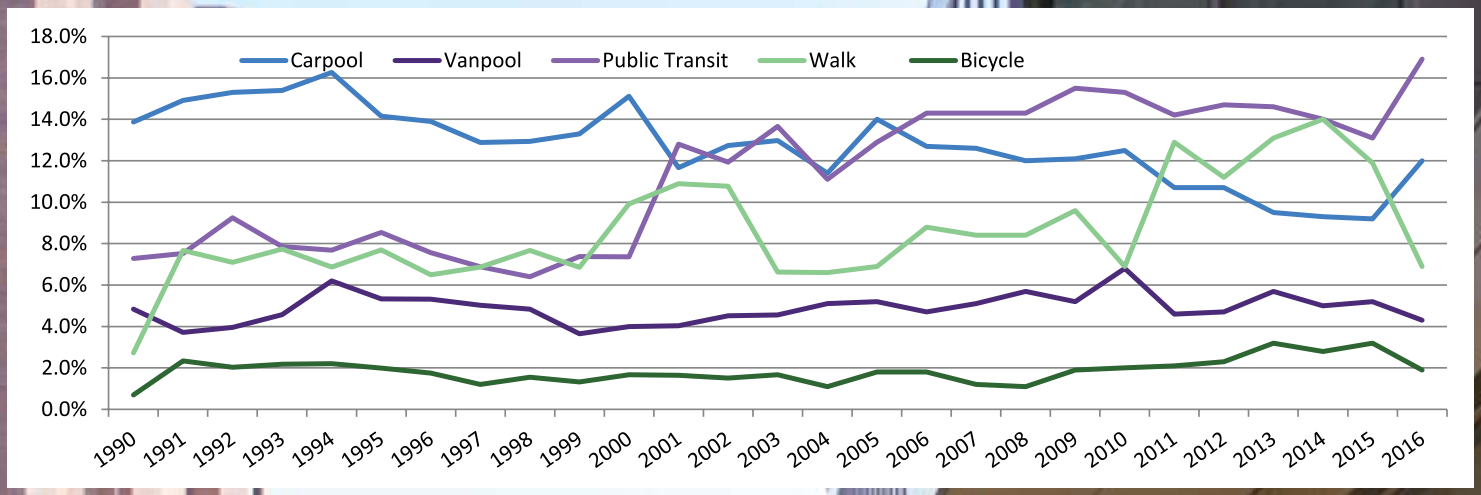
More than 22% of all UCLA commuters take public transit, including close to 17% of employees and 28% of students. Forty percent of student public transit users ride the University-operated BruinBus shuttles, while 60% ride with one or more of UCLA's six partner public transit agencies.

UCLA vanpoolers make up more than 2% of all commutes to campus, including 4.3% of employees. Carpoolers constitute more than 9% of commuters, including 12% of employees and 6% of students. More than 3% of commuters come to UCLA by some mode other than those listed above. This group includes those who are driven to campus and dropped off, those who ride a motorcycle, and other options.

Nearly 15,000 students live in residence halls or in other on-campus facilities. While these on-campus residents are not considered commuters, they still make an intra-campus trip to school each day and the transportation choices they make certainly have an impact on the University and the surrounding community. Trips to class or work for on-campus residents are dominated by non-motorized modes. Walking accounted for almost 90% of on-campus trips, with biking adding an additional 2%. Five percent rode BruinBus Shuttle.

Mode choice varies greatly depending on the location of a student's on-campus residence. More than 90% of students in residence halls walked to class or work. For graduate student residents living in Weyburn Terrace on the Southwest Campus, more than half walked while over a quarter rode BruinBus.

FIGURE 7. EMPLOYEE ALTERNATIVE MODE USAGE, 1990 - 2016



COMMUTER BENEFITS

To further incentivize ridesharing and active transportation, UCLA students and employees who use an alternative transportation mode can receive commuter benefits by joining the Bruin Commuter Club (BCC). BCC members receive discounted daily parking privileges, commuter rewards from Los Angeles County Metro and emergency ride home services. Those who bike or walk to campus also receive additional mode-specific benefits through BCC. In 2016, the BCC had more than 5,400 members, including about 5,000 employees and 400 students.

TABLE 5. CARPOOL PERMITS ISSUED - FALL 2016

Employees	
Two-Person Permits	461
Three-Person Permits	112
Students	
Two-Person Permits	321
Three-Person Permits	136
Total Carpool Permits Issued	1,030
Total Parking Permits Issued	32,398
Carpool's % of All Permits Issued	3.2%

Source: UCLA Parking Programs (as of Nov. 1, 2016)

COMMUTE MODES

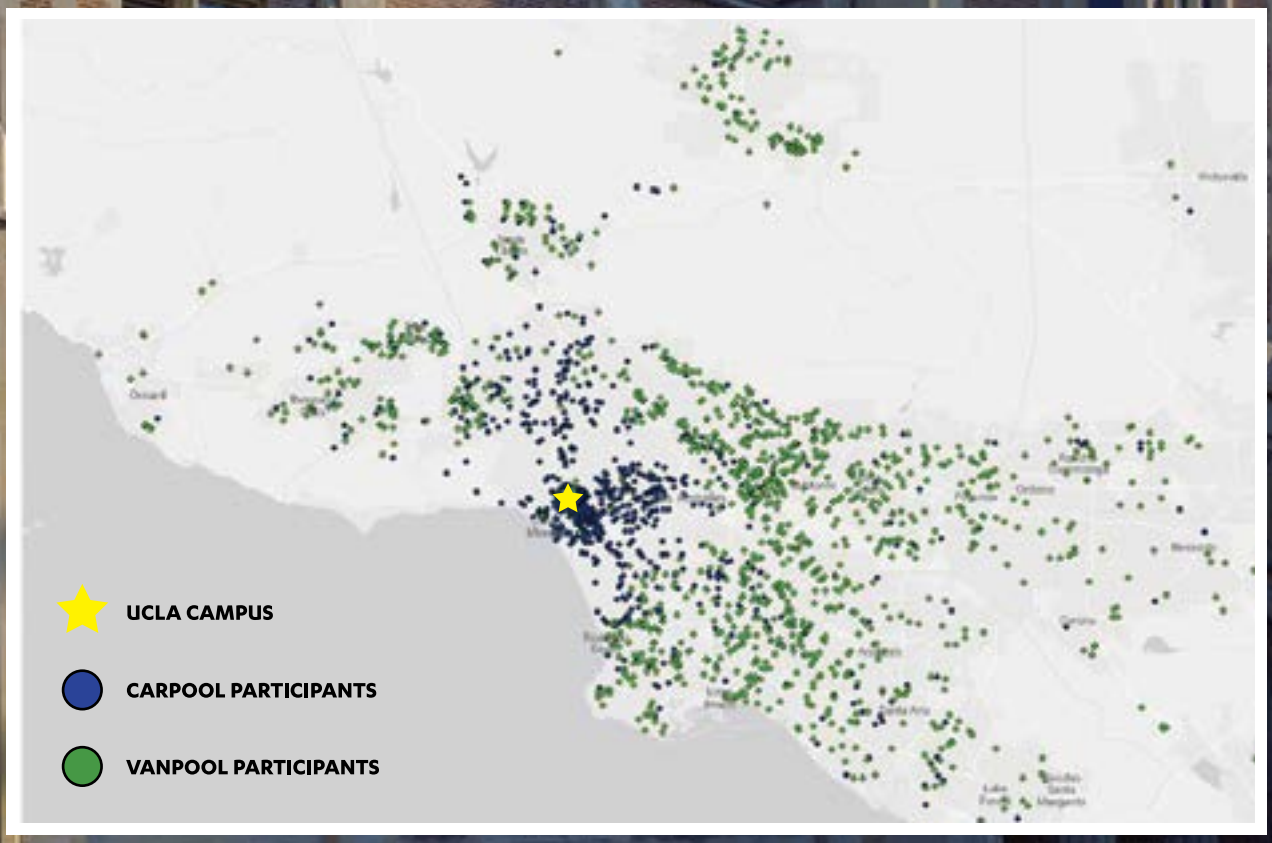
CARPOOL

Twelve percent of campus employees and over 6% of the student commuter population reported carpooling as their travel mode of choice. UCLA Transportation offers discounted carpool parking permits and commuter assistance for students and employees interested in forming carpools (Table 5). As of December 2016, the average commuter in a two-person carpool saves more than $550 per year in permit costs compared to a commuter who drives solo and purchases a basic individual permit. Members of three-person carpools save nearly $800 per year in permit costs.

VANPOOL

UCLA operates more than 148 vanpools that serve campus commuters throughout Southern California (Figure 8). Pick-up locations for vanpools are as far north as Lancaster (northern LA County); as far east as Moreno Valley (Riverside County); as far south as Laguna Hills (Orange County); and as far west as Oxnard (Ventura County).

FIGURE 8. RESIDENCES OF CARPOOL AND VANPOOL PARTICIPANTS, FALL 2016



Currently, more than 4% of employees (and a small number of student commuters) take a vanpool to and from campus each weekday. UCLA Transportation subsidizes approximately half of the cost of vanpool operations and provides administrative oversight of the program. Each van transports up to 11 individuals to the UCLA campus. UCLA vanpools are driven by UCLA employees who provide their services in exchange for a discounted fare. The University provides insurance, maintenance, and fuel for its vanpool vehicles.

Vanpools are also open to non-UCLA riders commuting to the Westwood area. However, non-UCLA riders do not receive a subsidy from the University. Additionally, vanpools allow part-time riders on a space-available basis. An average of 650 one-way rides are taken by part-time vanpoolers each month (for full-time vanpooler ridership, see Table 6).

TABLE 6. VANPOOL STATISTICS - FALL 2016	
Vanpools	148
Full-Time Riders	1,438
Employees	1,323
Students	68
Non-UCLA	47
Source: UCLA Bruin Commuter Services	

PUBLIC TRANSIT

In 2016, nearly 17% of employees and 28% of student commuters used public transit (including BruinBus) as part of their daily travel to UCLA. As part of the overall Transportation Demand Management program, UCLA Transportation provides an approximately 50% subsidy toward the purchase of either a quarterly or monthly pass for six transit agencies. With these programs, participants can have unlimited rides on public transit for as little as $33 per academic quarter. More than 6,000 subsidized public transit passes were sold to UCLA employees and students during Fall Quarter 2016 (Table 7).

TABLE 7. PUBLIC TRANSIT PASSES - FALL 2016	
BruinGO! Flash Pass	**Total: 3,441** Employees: 1,510 Students: 1,931
Metro	**Total: 2,021** Employees: 665 Students: 1,356
LADOT	**Total: 291** Employees: 263 Students: 28
Santa Clarita Transit	**Total: 144** Employees: 101 Students: 43
Antelope Valley (AVTA)	**Total: 56** Employees: 50 Students: 6
EZ Pass	**Total: 114** Employees: 104 Students: 10
Source: UCLA Transportation, Central Ticket Office	

The BruinGO! transit program is a unique offering from UCLA that provides discounted access to both the Santa Monica Big Blue Bus and Culver CityBus systems. UCLA employees and students have the option of purchasing a quarterly Flash Pass for unlimited rides on either system or making a discounted $0.50 copayment for each ride with a valid BruinCard. Big Blue Bus serves UCLA with six different lines providing direct service to Santa Monica, West LA, Palms, and other areas throughout the Westside. Culver CityBus has two lines to UCLA, providing connections to Culver City and Los Angeles International Airport (LAX), where it connects to Metro Rail's Green Line. The BruinGO! program is, by far, the most popular choice of public transportation among UCLA riders (Figure 9).

In 2016, UCLA Transportation launched the BruinTAP for Transit program providing UCLA employees and students the ability to purchase a quarterly BruinGO! Flash Pass and/or Go Metro pass online and load both passes onto one TAP card. By purchasing both options, commuters can now ride any Santa Monica Big Blue Bus, Culver CityBus, Metro bus or Metro rail line, including the new Expo Line, all quarter long.

Metro serves UCLA and Westwood Village with six lines providing direct connections to downtown LA, the San Fernando Valley, Santa Monica, and many points in between. Metro riders can connect from one of these six buses to the rest of the Metro network, which includes two subway lines, four light rail lines and nearly 200 bus lines stretching throughout LA County.

UCLA partners with three agencies to provide long-distance bus service for UCLA employees and students who commute from locations far from campus: The City of Los Angeles Department of Transportation (LADOT), City of Santa Clarita Transit (SCT), and the Antelope Valley Transit Authority (AVTA). All three of these agencies serve the UCLA population with stops in both Westwood Village and adjacent to the UCLA campus.

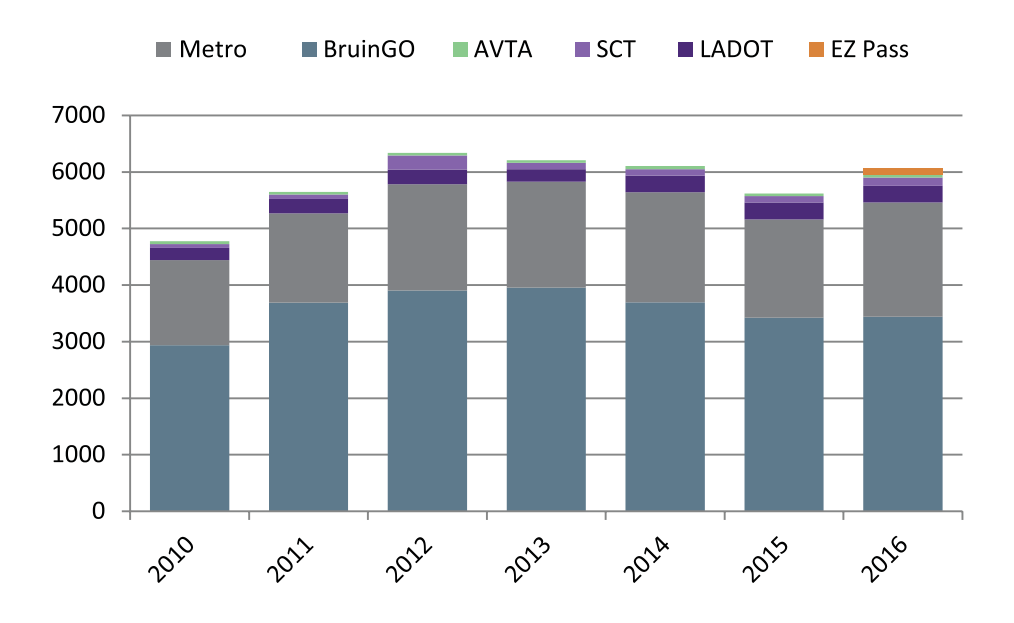
LADOT operates three Commuter Express routes from the San Fernando Valley and downtown LA to the Westwood area. The vast majority of UCLA's LADOT riders come from the San Fernando Valley on a line with 16 arrivals from and 15 departures to the Valley each weekday.

SCT operates two commuter routes between the Santa Clarita Valley and Westwood, with 11 arrivals from and 11 departures to Santa Clarita each weekday.

AVTA runs five buses between the Antelope Valley and UCLA each weekday.

BruinBus, the year-round campus shuttle bus operated by UCLA Transportation, provides complimentary weekday service and is widely used by students (and some employees) as either a primary commute mode or to supplement another mode, such as public transit or walking (more BruinBus information on page 27).

FIGURE 9. MOST POPULAR TRANSIT PASSES FOR UCLA RIDERS (DAILY BOARDINGS)



BICYCLING

UCLA has been designated a Bike Friendly University twice by the League of American Bicyclists, receiving a Bronze status in 2011 and an upgraded Silver status in 2015. The Silver status places UCLA in the top third of the nationwide rankings.

The UCLA campus has over seven miles of bike routes, low-cost quarterly bike rentals for students, and a bike shop located in central campus. This year, almost 5.4% of commuting students traveled to UCLA by bicycle, while approximately 2% of the campus employee population reported bicycling as their commute mode.

Major infrastructure improvements completed during 2016 include a bike channel in central campus, a shared bicycle/pedestrian path in the medical center area, and another protected bike lane on the west side of campus. UCLA Transportation also launched a new employee Earn-A-Bike program and a bicycle citation diversion program called BruinBikeSmart. The Earn-A-Bike program encourages eligible employees to trade in their parking permit for a free bike, while the BruinBikeSmart program allows cyclists who receive a moving violation to take an online bike safety class in lieu of paying the full citation amount.

Employees who are members of the Bruin Commuter Club and bike to campus receive an annual monetary benefit that may be used for services or products at the UCLA Bike Shop or Helen's Cycles, access to shower facilities on campus, or a membership to the Los Angeles County Bicycle Coalition.

WALKING

UCLA's beautiful, compact campus, as well as Southern California's favorable weather, makes walking an ideal commute mode for many students and employees throughout the year. With more people choosing health and fitness as part of their daily routine, UCLA's enhanced crosswalks and slowed vehicle speeds make it easier and safer for pedestrians to choose this active transportation commute mode.

Pedestrian trips account for nearly 7% of UCLA's employee commutes, while nearly 31% of commuting students walk to campus. Proximity plays a key role in student commutes, as almost two-thirds of off-campus students living in nearby Westwood walk to campus.

In 2016, the Bruin Commuter Club continued an incentive program that provided employees who walked to work with benefits such as a gift card or access to on-campus shower facilities.

Walking is the primary mode of transportation for almost 90% of students living on campus. More than 93% of students living in residence halls and more than half of Weyburn Terrace residents walk to class. Almost all UCLA commuters and residents, regardless of their primary mode, are pedestrians for a portion of their trip, even if the walk is only from their parking structure or bus stop to their office or classroom.

OTHER MODES

Numerous other modes account for a small percentage of the commutes to and from the UCLA campus. BruinBus is widely used by students (and also by some employees) as either a primary commute mode or as a supplement to another mode, such as public transit or walking. Some employees have the option of telecommuting or working a compressed work week. In total, approximately 5% of employees and over 4% of students identify their primary commute mode as something other than driving alone, carpool, vanpool, public transit, biking, or walking.

UCLA

BRUINBUS
Your Daily
True Bruin Experience.
BRUINBUS
BRUINBUS
ZERO EMISSION VEHICLE
UCLA
UCLA Transportation

BRUINBUS

BruinBus, the year-round campus shuttle bus service operated by UCLA Transportation, provides service on four distinct routes each weekday, excluding University holidays. Campus Express – the most popular BruinBus route – includes stops at the Weyburn Terrace graduate student housing area, the Ronald Reagan Medical Center, and the academic core of campus. The Wilshire Center Express serves as a connection from the Wilshire Center office building on Wilshire Boulevard to the main campus. The Weyburn Express provides direct service between Weyburn Terrace and the academic core of campus during peak morning hours. Finally, the University Apartment Shuttle transports students from UCLA-owned off-campus apartments to the main campus.

Between July 2015 and June 2016, BruinBus vehicles traveled more than 187,000 miles and transported over one million riders. More than a quarter of the graduate students residing in Weyburn Terrace use BruinBus as part of their trip to school. Almost 5% of off-campus students use BruinBus for at least a portion of their commute.

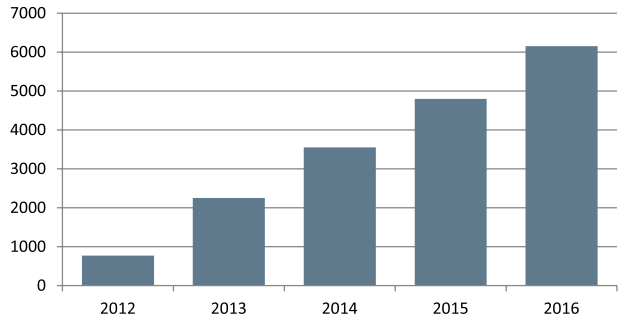
In 2016, two new all-electric buses were incorporated into the BruinBus transit program. These zero emission, clean-fueled buses run for up to 145 miles; are equipped with portable electric chargers and can be fully charged in two and a half hours; and are five times more efficient compared to diesel, CNG, and hybrid technologies. These are the first electric buses at any public university in California.

ELECTRIC VEHICLES

In alignment with the University's commitment to carbon neutrality, UCLA Transportation continues to promote the use of electric vehicles (EV) and plug-in hybrids among employees, students, and campus visitors by expanding the EV infrastructure throughout the campus.

Since 2012, UCLA has partnered with the vendor ChargePoint to provide EV charging stations in numerous parking facilities accessible to University permit holders, visitors, and those with ADA parking needs. These stations provide both Level 1 (120 volt) and Level 2 (240 volt) chargers. Level 1 charging is included in the price of a UCLA Clean Fuel Permit, while customers using Level 2 stations are charged an hourly usage fee. Over the last three years, the number of charging sessions at these stations has increased by an average of 40% annually (Figure 10).

FIGURE 10. ON CAMPUS ELECTRIC VEHICLE CHARGING SESSIONS



Source: ChargePoint Network

UCLA Transportation continues to partner with UCLA's Smart Grid Energy Research Center as well to facilitate research and innovation in the field while providing additional EV charging options for UCLA commuters.

CARSHARING

Carsharing services allow customers to rent a vehicle for an hourly or daily rate, with fuel and insurance costs included in the rental fee. At the end of the reservation period, the user parks the vehicle in the designated carshare space, allowing the next user to pick up the vehicle once it is available.

Carsharing is attractive for customers who do not need regular access to a vehicle but do need a car periodically for the occasional errand or appointment. Carsharing typically benefits the users of alternative transportation modes, such as public transit and vanpool, because it provides a midday mobility option for customers who do not have their own automobile available at work or school.

Zipcar is an official carsharing provider for UCLA, with 24 vehicles available at 11 different locations on campus (Table 8).

UCLA Transportation also subsidizes Zipcar usage for University employees who commute to campus by an alternative mode and belong to Bruin Commuter Club. Members of Bruin Commuter Club are provided four complimentary hours of Zipcar usage each month.

TABLE 8. ZIPCAR USAGE - 2016

Reservations	15,961
Total Hours	77,224
Total Miles	583,311
Avg. Hours per Reservation	4.8
Avg. Miles per Reservation	36.6
Number of Vehicles on Campus	24

Source: Zipcar

FLYAWAY

The LAX FlyAway bus service, operated by the City of Los Angeles World of Airports, provides direct shuttle service between Los Angeles International Airport (LAX) and UCLA's Parking Structure (PS) 32 in Westwood Village. Buses depart both Westwood and LAX hourly throughout the day, with 17 departures from and 18 arrivals to PS 32 each day. FlyAway also operates bus service to LAX from Van Nuys, Union Station, Hollywood, and Long Beach, as well as connecting service from the Metro Orange Line.

UCLA Transportation provides supplemental bus service between LAX and PS 32 during periods of peak travel and academic breaks for the University community. UCLA Transportation also provides marketing support to FlyAway both on campus and in the Westwood community throughout the year.

AMTRAK

Amtrak Thruway connects the UCLA community to Amtrak's rail network. Four motor coaches stop at the University each day, with schedules coordinated with the arrivals and departures of the San Joaquin line at Bakersfield, which serves the Central Valley, Sacramento and the San Francisco Bay Area. These same buses can also be used to connect to the Van Nuys station, where riders can catch Amtrak's Pacific Surfliner trains to the Central Coast and San Diego.

WHAT'S NEXT?

In the coming year, UCLA will continue to cultivate both on and off-campus partnerships to achieve its current sustainable transportation goals.

UCLA will launch the new Bruin Bike Share program in spring 2017, a joint effort with the Westwood Business Improvement District and Westside cities, including Beverly Hills, West Hollywood, and Santa Monica. The University will also continue to work with surrounding municipalities in the ongoing effort to provide safer and more accessible bicycle routes to campus.

UCLA will continue to increase the number of commuters utilizing electric vehicles and plug-in hybrids by expanding the EV infrastructure throughout the campus. When completed, a larger network of Level 1 charging areas will be accessible to permit holders, visitors, and those with ADA parking needs, complementing existing Level 2 charging stations.

Finally, the University will continue to foster transportation relationships with area public transit providers to ensure the best service for UCLA commuters. This includes working with Metro to bring the long anticipated Purple Line subway to UCLA. With the overwhelming passage of Measure M last fall, Metro's extension of the Purple Line to Westwood will be completed much sooner than expected, and in addition, a rail tunnel through the Sepulveda Pass Corridor will eventually connect Westwood Village with the San Fernando Valley.

Transportation programs require teamwork, and UCLA will remain an innovator and leader in providing sustainable transportation options that support the campus community and the surrounding areas.

ADDITIONAL RESOURCES

2016 UCLA Cordon Count

http://bit.ly/UCLACordonCount2016

2016 UCLA Student Transportation Survey

http://bit.ly/UCLAStudentSurvey2016

UCLA Bicycle Master Plan

http://bit.ly/UCLABikeMasterPlan

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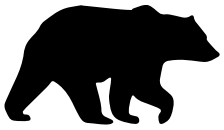

MISSION

UCLA Transportation supports the campus community by providing for safe and efficient access and mobility in an environmentally responsible manner.

UCLA *Transportation*

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