Woodland Park Euclid Improvements Project EIR

DRAFT EIR | JUNE 2021

SCH # 2020040270

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Kimley»Horn

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Draft Environmental Impact Report for the

Woodland Park Euclid Improvements Project

SCH # 2020040270

Prepared for:

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June 2021

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1 Executive Summary

This Draft Environmental Impact Report (EIR) has been prepared by the City of East Palo Alto (City) for the Woodland Park Euclid Improvements Project (project). The City is the "public agency which has the principal responsibility for carrying out or approving the project," and as such is the "Lead Agency" under the California Environmental Quality Act (CEQA), as defined in CEQA Guidelines Section 15367. CEQA requires the Lead Agency to consider the information contained in the EIR prior to taking any discretionary action.

This Executive Summary summarizes the requirements of the CEQA Statute and Guidelines, provides an overview of the proposal, discloses the primary findings of the EIR (potential impacts, recommended mitigation measures, level of significance after mitigation, and a summary of project alternatives), and identifies areas of potential controversy.

1.1 Project Overview

1.1.1 Project Location

The 3.92-acre project site is on East Palo Alto's west side, located northwest of University Avenue, adjacent to U.S. 101 and northwest of University Circle. The project is within the city limits of East Palo Alto, San Mateo County, CA. The City of Menlo Park is to the southwest and the City of Palo Alto is located to the southeast.

The primary project area consists of a grouping of 14 individual parcels. The project parcels are bounded by West Bayshore Road, Manhattan Avenue, and O'Connor Street. Euclid Avenue bisects the group of project parcels. An additional group of parcels located at 375 Donohoe Street is under consideration as a location for a new water tank and is included in this description for planning and analysis purposes. These parcels total about 0.47 acres in size. Project addresses and associated parcel numbers are listed in Chapter 3, Project Description.

1.1.2 Project Description Summary

The project is a proposal for a General Plan and zoning amendment that would create a Neighborhood Center Residential Overlay (NCO). The NCO designation would establish new development standards for the property that would be applied to the proposed project. The NCO would allow for neighborhood-serving commercial and community uses on the ground floor, additional housing units, and increased building heights.

With the NCO overlay, the project would demolish and remove the existing 161 units and replace all existing structures with three buildings (Buildings A, B and C) supporting 605 residential units ranging in size from studios to 2 bedrooms (two of the units would be 3-4 bedrooms). The project would be divided into two main sections on either side of Euclid Avenue. The south side of Euclid contains the majority of the development (Buildings B and C), including residential structures with a lobby/common area, central parking garage, community space/neighborhood serving retail and open space/park area. Although the building heights vary considerably in design, the tallest structure (Building C) would be up to 13 levels. Building layouts and heights are described in detail in Chapter 3, Project Description.

The project also includes an affordable housing plan, tenant relocation plan, and fiscal impact analysis, which are critical components of the project, but not necessarily consequential to the environmental review.

The project is proposed to be constructed in a single action, but with primary structures constructed in sequence to allow planned construction staging and flow of materials and equipment. The general sequence of activity would involve demolition, excavation, utility relocation, site grading and foundations, building erection, and final finishes. Construction activities are anticipated to last approximately 18 to 24 months.

1.1.3 City of East Palo Alto CEQA Evaluation Process

This EIR has been prepared to evaluate and disclose changes in the environment that could result from implementation of the proposed project. The California Environmental Quality Act (CEQA) requires the Lead Agency with discretionary authority over the project to consider the information contained in the EIR prior to taking any discretionary action. This EIR provides information to the Lead Agency and other public agencies, the general public, and decision makers regarding the potential environmental impacts from the construction and operation of the proposed project. Public review of the EIR is essential to provide an objective evaluation of the proposal consistent with CEQA requirements.

The City has the authority to take discretionary actions relating to development of the proposed project and may approve, conditionally approve or deny the project permits. This EIR evaluates the potential environmental consequences of the project, and identifies feasible mitigation measures and/or alternatives to resolve those consequences. As required by CEQA, the EIR also discloses growth-inducing effects; impacts found not to be significant; and an evaluation of cumulative impacts of past, present, and reasonably anticipated future projects.

1.2 Areas of Controversy and Issues to be Resolved

This EIR addresses environmental impacts associated with the project that are known to the City, raised during the Notice of Preparation (NOP) scoping process, or were raised during preparation of the EIR. The EIR addresses potentially significant impacts and areas of controversy such as: aesthetics and community character, air quality, biological resources, cultural and historic resources, greenhouse gases, hazards and hazardous materials, hydrology, noise, public services, transportation, and utilities (including sewer and water). During the NOP process, comment letters were received from 15 individuals, organizations and/or agencies. The comments are summarized in Chapter 2, Introduction, and are also provided in **Appendix A**.

1.3 Summary of Environmental Impacts

Table 1-1: Summary of Significant Impacts of the Proposed Project provides a summary of project impacts and proposed mitigation measures that could avoid or minimize potential impacts. The mitigation measures associated with each impact are to be implemented by the project applicant to reduce the environmental impacts to a less than significant level, where feasible.

Table 1-1: Summary of Significant Impacts of the Proposed Project

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Aesthetics			
Impact AES-1: The project would alter the visual character or quality of the site and its neighborhood surroundings as seen from public viewpoints.	Less than significant	None required	Less than significant
Impact AES-2: The project could potentially conflict with existing zoning for this urban area that governs scenic quality.	Significant	**MM AES-2.1 Construction Screening** To minimize and soften the visual effect as seen from visitors and nearby residents, the project proponent shall incorporate construction fencing or screening around the perimeter of the site. The screening material shall be of sufficient height to mask ground-level activities within and be designed with graphics, murals, historic references, or other design features to blend as much as possible with the neighborhood surroundings while communicating the future uses at the site. Screening shall remain in place during demolition of existing structures, site preparation and new building construction. Screening shall not be necessary during the final stages of construction when architectural coatings, detailing and landscaping are applied. The plan for screening concept and design shall be submitted for approval to the City of East Palo Alto prior to issuance of any building and grading permits.**MM AES-2.2 Water Tank Screening** During construction, the applicant shall provide construction screening of the water tank site to soften visual effects of construction. In the final phase of tank construction, the applicant shall landscape the perimeter of the water tank site at 375 Donohoe with a combination of fencing and vegetation to soften and screen the appearance of the water tank and related improvements. Plant selection shall include native, taller species or trees to provide a visually appealing screen as viewed from the roadway and surrounding land uses. Landscaping and screening shall not conflict with water tank access or operations. Landscaping plans shall be	Significant and unavoidable

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		submitted to the City for review and approval with final improvement plans.	
Impact AES-3: The project would introduce new sources of light and glare to the project site and project area.	Significant	**MM AES-3.1 Glare Reduction** As part of final improvement plans, the project shall incorporate anti-reflective (AR) glass products and surfaces selected specifically to minimize reflective glare. Such materials can vary but typically consist of matte or patterned finishes that serve to both reduce reflective glare and reduce bird strike.	Less than significant
Impact AES-4: The project would not significantly contribute to cumulatively considerable visual or aesthetic impacts.	Less than significant	None required	Less than significant
Air Quality			
Impact AQ-1: The project would not conflict with or obstruct with implementation of the applicable air quality plan.	Less than significant	None required	Less than significant
Impact AQ-2: The project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard.	Less than significant	**SC AQ-2.1 BAAQMD Basic Construction Measures** BAAQMD Basic Construction Measures. Prior to any grading activities, the applicant shall prepare and implement A Construction Management Plan that includes the BAAQMD Basic Construction Mitigation Measures to minimize construction-related emissions. This shall plan shall first be reviewed and approved by the Director of	Less than significant

		Public Works/City Engineer. The BAAQMD Basic Construction Mitigation Measures are: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact AQ-3: The project could expose sensitive receptors to substantial pollutant concentrations.	Significant	**SC AQ-3.1 Ventilation System Air Filters** The ventilation system shall be provided with air filter(s) having a designated efficiency equal to or greater than MERV 13 when tested in accordance with ASHRAE Standard 52.2, or a particle size efficiency rating equal to or greater than 50 percent in the 0.30-1.0 µm range and equal to or greater than 85 percent in the 1.0-3.0 µm range, when tested in accordance with Air-Conditioning, Heating, and Refrigeration Institute (AHRI) Standard 680 (California Energy Commission, 2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings, Section 150.0[m][12]). **MM AQ-3.1 Off-Road Diesel-Powered Construction Equipment** All mobile diesel-powered off-road equipment operating on-site for more than two days and larger than 50 horsepower shall, at a minimum, meet U.S. Environmental Protection Agency (EPA) particulate matter emissions standards for Tier 4 engines or equivalent. Prior to the issuance of any demolition permits, the project applicant shall submit a construction operations plan to the Planner/Project Manager of the Planning Division of the Department Community and Economic Development, which includes specifications of the equipment to be used during construction and confirmation this requirement is met. Such equipment could include concrete/industrial saws, graders, scrapers, rollers, cranes, forklifts, generator sets, and air compressors. The construction contractor may use other measures to minimize construction period Diesel Particulate Matter (DPM) emissions to reduce the estimated cancer risk below the thresholds. The use of equipment that includes CARB-certified Level 4 Diesel Particulate Filters or alternatively-fueled equipment (i.e., non-diesel), added exhaust devices, or a combination of these measures could meet this requirement. If any of these alternative measures are proposed, the construction operations plans must include specifications of the equipment to be used during construction prior to the issuance of any demolition permits. If any of these alternative measures are	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		proposed, the plan shall be accompanied by a letter signed by a qualified air quality specialist, verifying the equipment included in the plan meets the standards set forth in this mitigation measure.	
Impact AQ-4: The project could result in other emissions (such as those leading to odors adversely affecting a substantial number of people).	Less than significant	None required	Less than significant
Impact AQ-5: The project could contribute to cumulatively considerable air quality impacts.	Less than significant	None required	Less than significant
Biological Resources			
Impact BIO-1: The project could interfere with the movement of native resident or migratory (avian) wildlife and/or associated nursery sites.	Significant	**MM BIO-1.1 Preconstruction Bird Surveys** The applicant shall schedule all on-site tree removal, demolition and grading to occur outside of the nesting and breeding season (February 1 through September 1) of any given year to avoid nest disturbance. If this schedule is not practical or feasible, the applicant shall hire a qualified biologist to conduct preconstruction nesting bird surveys of the site plus a 100-foot perimeter around the site, no more than seven days prior to removal of trees and grading. If nesting birds are observed, the biologist will establish a buffer zone where no tree removal or grading will occur until the biologist confirms that all chicks have fledged and are no longer reliant on the nest. The buffer zone may vary from 50 to 250 feet, depending upon the species of bird and exposure of the nest site.	Less than significant
Impact BIO-2: The removal of approximately 26 trees for construction for the project could conflict with local policies and ordinances regarding tree preservation.	Less than significant	None required	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact BIO-3: The project could contribute to cumulatively considerable effects on biological resources.	Less than significant	None required	Less than significant
Cultural Resources and Tribal Cultural Resources			
Impact CR-1: The project would not result in a substantial adverse change in the significance of a historical resource as defined by the significance criteria established by CEQA.	Less than significant	None required	Less than significant
Impact CR-2: The project has the potential to cause a substantial adverse change to known and unknown archaeological and cultural resources and human remains.	Significant	**MM CR-2.1 Inadvertent Discovery of Archaeological Resources** In the event the buried, or previously unrecognized archaeological deposits or resources are encountered during ground disturbing activities, work shall be temporarily halted within a 50-foot radius of the discovered materials and workers should avoid altering the materials and their context until a qualified professional Archaeologist has evaluated the situation and provided appropriate recommendations. Project personnel shall not collect cultural resources. Construction and potential impacts to the area(s) within a radius determined by the archaeologist shall not recommence until the assessment is complete. If any tribal cultural resources are found, the project applicant and/or its contractor shall cease all work within 50 feet of the discovery and immediately notify the City of East Palo Alto Planning Division. Potentially significant Native American resources consist of but are not limited to chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. The tribal monitor(s) will contact the tribal representative(s) and in consultation with the City and an archeologist evaluate the finds. Appropriate mitigation measures for the inadvertently discovered tribal cultural resource shall be at the direction of tribal leadership.	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		The City and tribal representative(s) shall consider the mitigation recommendations and agree on implementation of the measure(s) that are feasible and appropriate. Such measures may include reburial of any ancestral remains, avoidance, preservation in place, excavation, documentation, or other appropriate measures. **MM CR-2.2 Inadvertent Discovery of Human Remains** In the event that human remains (or remains that may be human) are discovered at the project site, Public Resource Code Section 5097.98 must be followed. All grading or earthmoving activities shall immediately stop within a 50-foot radius of the find. The project proponent shall then inform the San Mateo County Coroner and the City of East Palo Alto immediately, and the Coroner shall be permitted to examine the remains as required by California Health and Safety Code Section 7050.5(b). Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the Coroner can determine whether the remains are those of a Native American. If human remains are determined as those of Native American origin, the applicant shall comply with the state relating to the disposition of Native American burials that fall within the jurisdiction of the NAHC (Public Resource Code [PRC] § 5097). The Coroner shall contact the NAHC to determine the most likely descendant(s) (MLD). The MLD shall complete his or her inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The MLD will determine the most appropriate means of treating the human remains associated grave artifacts, and shall oversee the disposition of the remains. In the event the NAHC is unable to identify an MLD or the MLD fails to make a recommendation within 48 hours after being granted access to the site, the landowner or his/her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity within the project area in a location not subject to further subsurface disturbance.	

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact CR-3: The project has the potential to 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.	Significant	Refer to MM CR-2.1 and MM CR-2.2	Less than significant
Impact CR-4: The project may incrementally contribute to the cumulative change or disturbance to historic or prehistoric resources known to exist in the vicinity of the project.	Less than significant	None required	Less than significant
Energy			
Impact ER-1: The project could result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less than significant	None required	Less than significant
Impact ER-2: The project would not obstruct a State or Local plan for renewable energy or energy efficiency.	Less than significant	None required	Less than significant
Impact ER-3: The project would not contribute to cumulatively considerable impacts to energy consumption.	Less than significant	None required	Less than significant
Geology & Soils			

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact GEO-1: The project would not directly or indirectly cause 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.	Less than significant	None required	Less than significant
Impact GEO-2: The proposed project could be subject to strong seismic ground shaking during a seismic event.	Less than significant	None required	Less than significant
Impact GEO-3: The project's susceptibility to landslide conditions is low.	Less than significant	None required	Less than significant
Impact GEO-4: The project could result in minor soil erosion or the loss of topsoil.	Less than significant	None required	Less than significant
Impact GEO-5: The project is located on a geologic unit or soil that could be either unstable, or that could become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, collapse or expansive soils.	Significant	**MM GEO-5.1 Final Geotechnical Evaluation** A construction level geotechnical evaluation shall be required for the project. The project shall be required to adhere to and incorporate all standards and recommended engineering measures to mitigate for liquefaction, expansive soils and other local soil constraints. The final geotechnical evaluation will be provided to the City for review and approval prior to the issuance of building permits.	Less than significant
Impact GEO-6: The project could directly or indirectly destroy a unique paleontological resource or site or unique geologic features during construction.	Significant	**MM GEO-6.1 Inadvertent Discovery of Paleontological Resources** In the event that fossils or fossil-bearing deposits are discovered during construction activities, work shall be temporarily halted with a 50-foot radius of the discovered materials and workers should avoid altering the materials and their context until a qualified paleontologist has evaluated the situation and provided appropriate recommendations. Construction and potential impacts to the area(s)	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		within a radius determined by the paleontologist shall not recommence until the assessment is complete. If it is determined that the proposed development could damage unique paleontological resources, mitigation shall be implemented in accordance with Public Resources Code Section 21083.2 and Section 15126.4 of the CEQA Guidelines. Possible mitigation under Public Resources Code Section 21083.2 requires that reasonable efforts be made for resources to be preserved in place or left undisturbed. If preservation in place is not feasible, the applicant shall mitigate significant effects. Excavation as mitigation shall be limited to those parts of resources that would be damaged or destroyed by a project. Possible mitigation under CEQA emphasizes preservation-in-place measures, including planning construction avoid paleontological sites, incorporating sites into parks and other open spaces, covering sites with stable soil, and deeding the site into a permanent conservation easement. Under CEQA Guidelines, when preservation in place is not feasible, data recovery through excavation shall be conducted with a data recovery plan in place.	
Impact GEO-7: The project will not contribute incrementally or combine with the effects of other projects to create significant geologic impacts.	Less than significant	None required	Less than significant
Greenhouse Gas Emissions			
Impact GHG-1: The project could generate greenhouse gas emissions, either directly or indirectly, that could have a significant impact on the environment.	Significant	**MM GHG-1.1 Transportation Demand Management Plan** Prior to approval of project entitlements for future residential uses, the project applicant shall prepare qualifying Commute Trip Reduction (CTR)/Transportation Demand Management (TDM) plan to reduce mobile GHG emissions for all uses. The TDM plan shall be approved by the City of East Palo Alto and any physical features resulting from the plan shall be shown in final improvement plans. The TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling,	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		taking transit, walking, and biking. The following measures or equally effective measures shall be incorporated into the TDM plan. • The project applicant shall consult with the local transit service provider on the need to provide infrastructure to connect the project with transit services. Evidence of compliance with this requirement may include correspondence from the local transit provider(s) regarding the potential need for installing bus turnouts, shelters or bus stops at the site. • The CTR/TDM plan for the project shall include, but not be limited to the following potential measures: ride-matching assistance, preferential carpool parking, flexible work schedules for carpools, half-time transportation coordinators, providing a web site or message board for coordinating rides, designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles, and including bicycle end of trip facilities. This list may be updated as new methods become available. Verification of this measure shall occur prior to building permit issuance for the commercial uses. Recognizing that future regulatory mandates, technological advances, and/or final project design features would likely result in GHG emissions that are lower than the levels presented in this EIR, the project applicant may prepare a final project GHG emissions inventory prior to City issuance of the certificate of occupancy. The project applicant may submit a report to the City that substantiates that alternate measures would reduce emissions below the BAAQMD threshold. Alternate measures may include but are not limited to electric vehicle charging, zero net energy buildings, and GHG emissions offsets.	
Impact GHG-2: The project will not conflict with a plan, policy or regulation	Less than significant	None required	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
adopted for the purpose of reducing greenhouse gas emissions.			
Impact GHG-3: The project will not result in a reasonably foreseeable cumulatively considerable contribution to global climate change.	Less than significant	None required	Less than significant
Hazards & Hazardous Materials			
Impact HAZ-1: The project has the potential to create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Significant	**MM HAZ-1.1 Asbestos Operation and Management Plan** Prior to demolition and removal of material from the site, the project applicant shall implement the recommendations of the 2014 Asbestos O&M Plan for work involving asbestos-containing material. These measures include asbestos training and specific work procedures for employees managing asbestos contaminated materials, notification procedures for building owners and occupants, asbestos clean-up and emergency response procedures, and recordkeeping of identified asbestos contaminated materials. The plan shall be reviewed and approved by the City of East Palo Alto prior to implementation. **MM HAZ-1.2 Lead Based Paint and PCB Operation and Management Plan** Prior to any renovations or demolition, the project applicant shall implement the recommendations of the LBP O&M Plan for work involving lead based painted surface areas to be carried out. These measures include training and special work procedures for employees managing lead-based paint materials, notification procedures for building owners and occupants, emergency response procedures, and recordkeeping of identified lead-based paint materials. The plan shall be reviewed and approved by the City of East Palo Alto prior to implementation. The project shall also follow current San Francisco Bay Regional Water Quality Control Board requirements for identifying and controlling PCB's during building demolition, if present.	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact HAZ-2: The project would not 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.	Significant	Refer to MM HAZ-1.2 and MM HAZ-2.2	Less than significant
Impact HAZ-3: The project would handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Significant	Refer to MM HAZ-1.2 and MM HAZ-2.2	Less than significant
Impact HAZ-4: The project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.	Less than significant	None required	Less than significant
Impact HAZ-5: The project is located within two miles of a public airport or public use airport, but is not located within the Airport Influence Area.	Less than significant	None required	Less than significant
Impact HAZ-6: The project would not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than significant	None required	Less than significant
Impact HAZ-7: The project, in conjunction with other development projects as identified by the City, could not contribute to cumulatively considerable impacts from hazards and hazardous materials.	Less than significant	None required	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Hydrology & Water Quality			
Impact HYD-1: The project is subject to stringent water quality control standards which would prevent potential degradation of local surface water or groundwater quality.	Less than significant	None required	Less than significant
Impact HYD-2: The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge.	Less than significant	None required	Less than significant
Impact HYD-3: The project could alter the existing drainage pattern of the site, but would not cause substantial erosion, cause flooding or exceed the capacity of the existing stormwater system.	Less than significant	None required	Less than significant
Impact HYD-4: The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than significant	None required	Less than significant
Impact HYD-5: The project, in conjunction with other residential development projects as identified by the City would contribute to cumulatively considerable impacts on hydrology and water quality.	Less than significant	None required	Less than significant
Land Use, Population, and Housing			
Impact LU-1: The project would not substantially conflict with an applicable land use plan, policy, or regulation	Less than significant	None required	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
adopted for the purpose of avoiding or mitigating an environmental effect.			
Impact LU-2: The project could induce substantial unplanned population growth in the Westside area due to the increased density of the project.	Less than significant	None required	Less than significant
Impact LU-3: The project would temporarily relocate a substantial number of existing people and housing units.	Less than significant	None required	Less than significant
Impact LU-4: The project will not substantially contribute to cumulatively considerable land use, planning, population or housing impacts.	Less than significant	None required	Less than significant
Noise & Vibration			
Impact N-1: The project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Significant	**MM N-1.1 Construction Noise Reduction** Prior to Grading Permit issuance, the applicant shall demonstrate, to the satisfaction of the City of East Palo Alto Director of Public Works or City Engineer that all applicable construction plans and specification include the following measures: • Construction activities shall be restricted to daytime hours of between 7:00 a.m. and 8:00 p.m. on weekdays. • Prior to the start of construction activities, the construction contractor shall: ○ Maintain and tune all proposed equipment in accordance with the manufacturer's recommendations to minimize noise emission. ○ Inspect all proposed equipment and should fit all equipment with properly operating mufflers, air intake silencers, and engine shrouds that are no less	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		effective than as originally equipped by the manufacturer. ○ Post a sign, clearly visible at the site, with a contact name and telephone number of the City of East Palo Alto's authorized representative to respond in the event of a noise complaint. ○ Place stationary construction equipment and material delivery in loading and unloading areas as far as practicable from the residences. ○ Limit unnecessary engine idling to the extent feasible. ○ Use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with human spotters. ○ Use low-noise emission equipment. ○ Limit use of public address systems. ○ Minimize grade surface irregularities on construction sites.	
Impact N-2: The project would not generate excessive groundborne vibration or groundbourne noise levels.	Less than significant	None required	Less than significant
Impact N-3: The project will not contribute to cumulatively considerable noise impacts.	Less than significant	None required	Less than significant
Public Services			
Impact PSR-1: The project would increase the number of residents in the City that could incrementally increase demands upon fire protection facilities and corresponding service ratios.	Less than significant	None required	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact PSR-2: The project would introduce a new service population that could incrementally increase demands upon police protection facilities and corresponding service ratios.	Less than significant	None required	Less than significant
Impact PSR-3: The project could increase the usage of existing local parks or other recreational facilities such that physical deterioration of the facility could occur or be accelerated.	Less than significant	None required	Less than significant
Impact PSR-4: The project would increase the number of residents in the City that could incrementally increase demand on local public school facilities.	Less than significant	None required	Less than significant
Impact PSR-5: The project would increase the number of residents in the City that could incrementally increase demands upon library services and facilities.	Less than significant	None required	Less than significant
Impact PSR-6: The project, in conjunction with other residential development projects as identified by the City would incrementally increase demand upon public services and recreation impacts.	Less than significant	None required	Less than significant
Transportation & Circulation			
Impact TRA-1: The project would not conflict or be inconsistent with adopted Vehicle Miles Traveled policies, plans, or programs per CEQA Guidelines section 15064.3.	Less than significant	None required	Less than significant

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact TRA-2: The project may substantially increase hazards due to a design feature or incompatible use.	significant	**MM TRA-2.1 Traffic Calming Measures** Prior to operational use of the parking garage, the project applicant shall install traffic calming measures at the Bayshore Road/Manhattan Avenue location to reduce traffic speeds and improve the safety of driveway movements. Such measures could include advisory speeds signs, advanced warning signage along Manhattan Avenue and Bayshore Road, roadway bulbouts, raised dots, parking restrictions or other physical improvements. Final traffic calming measures will be determined in consultation with City of East Palo Alto Public Works staff during review of improvement plans.	Less than significant
Impact TRA-3: The project would contribute to cumulatively considerable transportation and circulation impacts.	Less than significant	None required	Less than significant
Utilities and Service Systems			
Impact UTIL-1: The project will require construction to connect and/or upgrade service systems to service the project.	Significant	Refer to MM AES-2.1, SC AQ-2.1, SC AQ-3.1, MM AQ-3.1, MM GHG-1.1, MM HAZ-1.1, MM HAZ-1.2, MM N-1.1	Less than significant
Impact UTIL-2: The project would have sufficient water supplies to serve the project and reasonably foreseeable development during normal, dry and multiple dry years.	Less than significant	None required	Less than significant
Impact UTIL-3: The wastewater treatment provider, via the Palo Alto Regional Water Quality Control Plant (PARWQCP), has sufficient capacity within its treatment system to accommodate the project. However, deficiencies have been identified in the	significant	**MM UTIL-3.1 Fair Share Funding of Project Improvements** The project applicant shall either fund the fair share of construction of physical sewer line improvements (pipe upgrades) immediately downstream of the project, provide fair share funding toward system wide sanitary sewer system improvements, or a reasonable combination of both. The project's financial and implementation responsibility for sewer capacity improvements shall be determined	Significant and unavoidable

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
capacity of the wastewater conveyance system that could be further affected by the project.		in consultation with the City of East Palo Alto Public Works Department. Fair share funding of common improvements to the city-wide system would also address the project's contribution to significant cumulative effects. Funding or construction of common improvements shall occur prior to the issuance of building permits or as determined by the City. The project's fair share of responsibility shall be proportionate to the impact. The project shall not be responsible for mitigating all existing deficiencies.	
Impact UTIL-4: The project will not generate solid waste beyond the capacity of existing infrastructure or landfills, and would comply with federal, State and local statues related to solid waste.	Less than significant	None required	Less than significant
Impact UTIL-5: The project could contribute to cumulatively considerable utilities and service system impacts.	Significant	Refer to MM AES-2.1, SC AQ-2.1, SC AQ-3.1, MM AQ-3.1, MM GHG-1.1, MM HAZ-1.1, MM HAZ-1.2, MM N-1.1	Less than significant

1.4 Alternatives to the Proposed Project

Section 15126.6 of the CEQA Guidelines states that an EIR must address "a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Based on the significant impacts identified in this EIR, along with the proposed project objectives, several alternatives were considered as summarized below and discussed in detail in Chapter 19, Alternatives.

Four alternatives were identified for examination and analysis in this EIR:

1.4.1 No Project Alternative

This required alternative assumes that no project would be built, and that the existing inventory of apartment buildings and units within the project would remain for the foreseeable future. If existing uses and structures were to remain, it is assumed the owners would maintain the property over time and until the end of its useful life, but no major redevelopment or intensification would occur.

1.4.2 Alternative A: Transfer of Heights

This alternative would further consolidate and concentrate the higher (13 level) elements of the project near the freeway. Building A (west of Euclid Avenue) would remain unchanged. However, Building B (that wraps the parking garage) would be reduced by one level, resulting in a structure that is 8 levels and 81' in height. Building C (high rise) would be increased by 10 levels (transferring units and height from Building B), resulting in 23 levels with a height of 231 feet. This height assumes 10' interior ceiling heights.

The total number of apartment units and parking spaces is assumed to be the same as the proposed project. The purpose of this alternative is to address community character concerns of project bulk and mass within the existing neighborhood.

1.4.3 Alternative B: Reduced Scale Alternative

Under this alternative, Buildings B and C essentially become one large 8-story structure 81 feet high, eliminating the "high rise" that was Building C. Building A west of Euclid Avenue would remain unchanged. This alternative would result in approximately 460 apartment units (a 24 percent reduction) and 480 parking spaces within the parking structure. The proposed onsite parking ratio of 1.1 spaces unit would be maintained. Commercial areas, park, and community space (and other community benefits), including the number of dedicated affordable units (above the City minimum), are also assumed to be significantly reduced or eliminated as a tradeoff for a reduction in units, and the square footage of the units is assumed to be smaller to maximize the development envelope. The purpose of this alternative is to reduce the degree of aesthetic impact related to community character, massing and density, reduce demands on infrastructure and public services, and reduce vehicle miles travelled and associated air quality and GHG emissions.

1.4.4 Alternative C: Water System Intertie Alternative

This alternative would eliminate the construction of the 1.5-million-gallon water tank proposed at 375 Donohoe Street. As an alternative to that infrastructure improvement, the applicant would complete an emergency intertie with the City of Palo Alto's water system at University Avenue. All other aspects of

the project would remain the same. This alternative is intended to provide a comparison of environmental effects only for CEQA purposes and does not reflect or assume any political or engineering preferences by either East Palo Alto or Palo Alto.

1.4.5 Alternative D: West Bay Sanitary District Connection

This alternative would convey wastewater from the existing sanitary sewer system immediately adjacent to the project site (East Palo Alto Sanitation District [ESPSD] facilities) to a new connection point with nearby WBSD conveyance infrastructure. The purpose of this alternative is to directly address a significant impact of the project related to existing constraints on ESPSD system capacity. All other aspects of the project would remain the same. This alternative is intended to provide a comparison of environmental effects only for CEQA purposes. This alternative also assumes that no WBSD system or pipe upgrades would need to be constructed to accommodate the additional wastewater flows.

The comparative analysis of these alternatives concluded that Alternative D, West Bay Sanitary District Connection, represents the environmentally superior alternative (as defined by CEQA) because it would eliminate an otherwise unavoidable significant impact of the project (sewer capacity).

2 Introduction

This Environmental Impact Report (EIR) has been prepared to identify and evaluate the potential environmental impacts associated with the Woodland Park Euclid Improvements Project (project, proposed project, or Euclid Improvements) in the City of East Palo Alto. Woodland Park Communities (project applicant) has submitted a development application to the City of East Palo Alto (City) to replace fifteen existing buildings, single family homes and related structures (161 existing units) with a new residential complex. The existing structures and units would be replaced with three new buildings (Buildings A, B and C) located on either side of Euclid Avenue, totaling 605 residential units ranging in size from studios to 2 bedrooms (two of the units would be 3-4 bedrooms). Twenty-six percent of the new units (160) are currently proposed to be deed restricted to remain as rent-stabilized units. Existing residents would be temporarily relocated during construction, with a right to relocate within the new development with no rent increases. Please see Chapter 3 for a detailed description of the project.

The project is located on East Palo Alto's west side, located northwest of University Avenue, adjacent to U.S. 101 and northwest of University Circle. The project is within the city limits of East Palo Alto, San Mateo County, CA.

The City of East Palo Alto is the public agency with the principal responsibility for approving the project, and as such is the Lead Agency under the California Environmental Quality Act (CEQA) as defined in CEQA Guidelines Section 15367. CEQA requires the Lead Agency to consider the information contained in the EIR prior to taking any discretionary action on the proposal. This EIR is intended to serve as an informational document to be considered by the City and other responsible or permitting agencies during their respective processing of permits and approvals for the proposed project.

2.1 Purpose and Intended Uses of the EIR

This EIR has been prepared to evaluate the environmental consequences that may result from implementation of the proposed project. The EIR provides an evaluation of the proposed project at a project-level pursuant to the Guidelines for the California Environmental Quality Act (State CEQA Guidelines) (CCR Title 14, Chapter 3, Sections 15000-15387), Sections 15161 and 15168(a)(2), respectively. According to Section 15161 of the State CEQA Guidelines, a project-level EIR is appropriate for specific development projects for which information is available for all phases of the project, including planning, construction, and operation.

CEQA requires the Lead Agency to consider the information contained in the EIR prior to taking any discretionary action. This EIR provides information to the Lead Agency and other public agencies, the general public, and decision makers regarding the potential environmental impacts from the construction and operation of the proposed project. The purpose of the public review of the EIR is to evaluate the adequacy of the environmental information in a transparent and publicly available setting. Section 15151 of the CEQA Guidelines states the following regarding standards by which adequacy is judged:

> *An EIR should be 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. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR*

> *should summarize the main points of disagreement among experts. The courts have not looked for perfection but for adequacy, completeness, and a good faith effort at full disclosure.*

Under CEQA, "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the proposed project, and to indicate the manner in which those significant effects can be mitigated or avoided" (PRC Section 21002.1[a]). An EIR is the most comprehensive form of environmental documentation identified in CEQA and the CEQA Guidelines and provides the information needed to assess the environmental consequences of a proposed project. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a proposed project that has the potential to result in significant, adverse environmental impacts.

As required by State CEQA Guidelines Section 15128, this EIR must identify the effects of the project determined to be significant. Chapter 4 of this EIR identifies the subject matter that is the focus of analysis, and also identifies where certain environmental issues will have no resulting impact from the project.

2.2 EIR Organization

Pursuant to State CEQA Guidelines, Section 15120(c), this EIR contains the information and analysis required by Sections 15122 through 15131. Each of the required elements is covered in one of the EIR chapters and appendices, organized as follows.

- **Executive Summary**. A concise overview of the project description, summary impacts and mitigation measures, project alternatives, and key findings of the EIR document.
- **Introduction**. A discussion of the background, purpose and need for the project, briefly describing the project, and outlining the public agency's use of the EIR.
- **Project Description**. Detailed description of all aspects the proposed project.
- **Environmental Analysis:** A comprehensive analysis and assessment of impacts and mitigation measures for the proposed project. This section is divided into separate chapters for each environmental resource and contains the environmental settings, analysis and impacts of the proposed project. A description of the approach to cumulative impacts analysis is presented in Chapter 4: Introduction to Environmental Analysis, and cumulative impacts are discussed at the end of each environmental resource.
- **Alternatives**. This chapter includes an explanation of the alternatives evaluation process, as well as a description of alternatives considered but eliminated from further analysis and the rationale thereof. This section also includes an analysis and assessment of impacts for alternatives retained, including the No Project Alternative.
- **Other CEQA Considerations**. A discussion of growth-inducing effects, long-term implications of the project, and significant environmental effects that cannot be avoided if the proposed project is implemented.
- **EIR Preparers and Organizations Consulted**
- **Appendices.** Copies of project-related appendices are available on the City of East Palo Alto's website.

2.3 Environmental Review Process

Figure 2-1: The EIR Process, provides a flowchart of the main steps in the environmental review process. CEQA requires the Lead Agency to provide the public with a full disclosure of the expected environmental consequences of the proposed project and with an opportunity to provide comments. Consistent with CEQA, the opportunities for public participation in the review process are provided in the following steps:

2.3.1 Notice of Preparation (NOP), Public Scoping, and Summary of Comments Received

Pursuant to Section 15082 of the CEQA Guidelines, as amended, the City prepared and circulated a NOP to affected agencies and interested parties for a 30-day public review period beginning on April 22, 2020 and ending on May 22, 2020. A public scoping meeting was held on May 18, 2020, during a regularly scheduled meeting of the Planning Commission, via Zoom.

Comments were received from 15 individuals, organizations and/or agencies, received as both written letters and emails. Additional comments were heard at the public scoping meeting. Concerns raised in response to the NOP and scoping meeting have been considered during preparation of the Draft EIR, throughout the individual chapters. The NOP and responses by interested parties are presented in **Appendix A** to this Draft EIR.

Public and agency comments on the NOP expressed an interested to see the following issues addressed in the EIR. It should be noted that the responsibility of the EIR is to disclose environmental effects of the project, and not all comments, letters and subjects submitted are subject to evaluation under CEQA.

- Aesthetics (including neighborhood views, project size and scale)
- Artificial lighting and effects upon wildlife and nesting birds
- Construction timeline (effects of construction)
- Traffic and parking constraints
- Planned infrastructure (roadway) improvements
- Public transit and alternative forms of transportation/transit routes
- Transportation Demand Management (TDM) measures to address traffic
- Location of critical infrastructures (such as natural gas, sewer and water lines)
- Community (neighborhood) impacts/quality of life
- Public Safety (concerns with fireworks, parties, garbage, etc.)

2.3.2 Draft EIR

This Draft EIR addresses the potential environmental effects of the project and was prepared following input from the public and the responsible and affected agencies, through the EIR scoping process, as discussed above. The Draft EIR contains a project description, an environmental setting description, identification of project impacts, mitigation measures for impacts found to be significant, and an analysis of project alternatives. Upon completion of the Draft EIR, a Notice of Completion (NOC) was filed with the Governor's Office of Planning and Research to begin the public review period pursuant to PRC Section 21161.

2.3.3 Public Notice/Public Review

The public comment period for this Draft EIR will be a minimum of 45 days. A Notice of Availability (NOA) has been prepared separately to accompany this EIR, consistent with CEQA Guidelines Section 15087. Written comments may be sent to the City of East Palo Alto at the address below. Comments must be received no later than 5:00 p.m. upon the last day of the comment period.

City of East Palo Alto
Art Henriques, Contract Project Manager
City of East Palo Alto, Community and Economic Development Department
1960 Tate Street
East Palo Alto, CA 94303
ahenriques@cityofepa.org

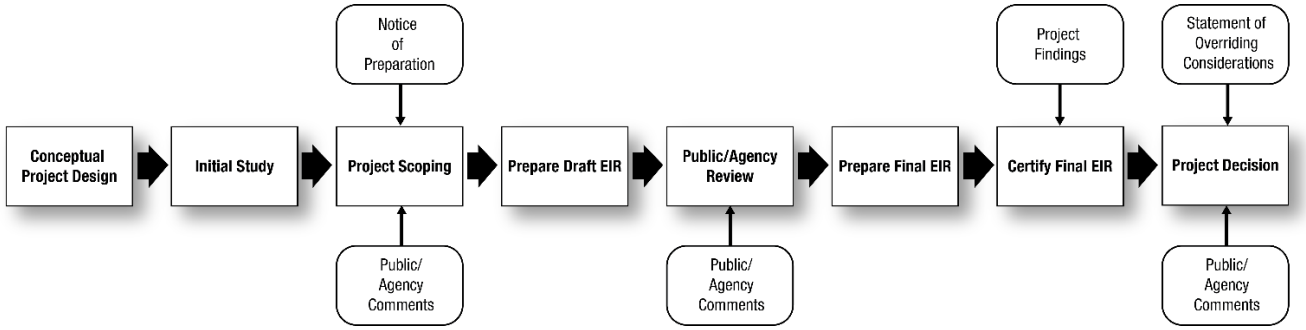
2.3.4 Response to Comments/Final EIR Process

Following the close of the public comment period, a Final EIR will be prepared to respond to all substantive comments related to environmental issues surrounding the content of the Draft EIR. Pursuant to Section 15088.5(f)(2) of the CEQA Guidelines, the City requests that reviewers limit their comments to the content of the Draft EIR. The City will respond to all comments related to the disposition of environmental effects made during the Draft EIR public review period.

The Final EIR will be available prior to Planning Commission and City Council public hearings to consider this Draft EIR and the proposed project.

Concurrent with the City's consideration of the Final EIR, the City Council will also consider the merits of the project itself. This consideration may render a request to revise the project, or an approval or denial. If the project is approved, the City Council may require mitigation measures specified in this Draft EIR as conditions of project approval. Alternatively, the City Council could require other mitigation measures deemed to be effective mitigations for the identified impacts, or it could find that the mitigation measures cannot be feasibly implemented. For any identified significant impacts for which no mitigation measure is feasible, or where mitigation would not reduce the impact to a less-than-significant level, the City Council would be required to adopt a finding that the impacts are considered acceptable because specific overriding considerations indicate that the project's benefits outweigh the impacts in question.

Figure 2-1: The EIR Process



3 Project Description

3.1 Project Location

The 3.92-acre Woodland Park Euclid Improvements project site is on East Palo Alto's west side, west of University Avenue, adjacent to and south of U.S. 101, and immediately northwest and adjacent to the University Circle office and hotel complex. The project is within the city limits of East Palo Alto, San Mateo County, CA. The City of Menlo Park is to the southwest and the City of Palo Alto is located to the southeast.

The primary project area consists of a grouping of 14 individual parcels. The project parcels are bounded by West Bayshore Road, Manhattan Avenue, and O'Connor Street. Euclid Avenue bisects the group of project parcels. An additional group of parcels located at 375 Donohoe Street is under consideration as a location for a new water tank and is included in this description for planning and analysis purposes. These parcels total about 0.47 acres in size.

Project addresses and associated parcel numbers are shown in Table 3-1: Project Addresses and Parcel Numbers below:

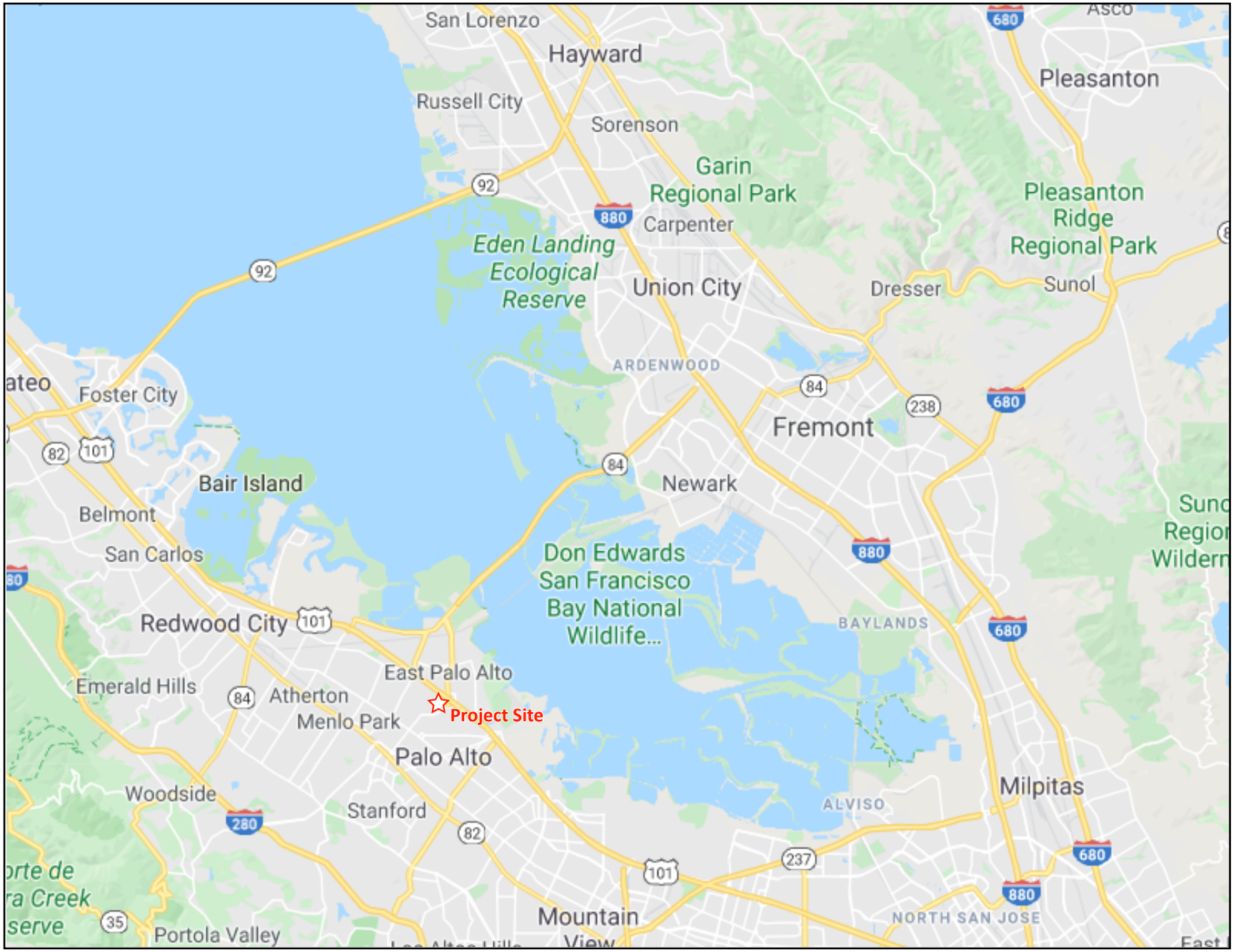
Table 3-1: Project Addresses and Parcel Numbers

Physical Addresses	Assessor's Parcel #:
501 O'Connor Street	063-282-010
2012 Euclid Avenue	063-282-020
2032 Euclid Avenue	063-282-030
2036 Euclid Avenue	063-282-040
2040/2042 Euclid Avenue	063-282-050
2044 Euclid Avenue	063-282-060
2054 Euclid Avenue	063-282-070
2033 Manhattan Avenue	063-282-080
2001 Manhattan Avenue	063-282-090
2021 Euclid Avenue	063-281-020
2025 Euclid Avenue	063-281-030
2031 Euclid Avenue	063-281-040
2043 Euclid Avenue	063-281-100
2041 Euclid Avenue/420 E O'Keefe Street	063-281-110
375 Donohoe Street (potential water tank location)	Group of 5 parcels

The project's regional location is shown in Figure 3-1: Regional Location. A focused location map is provided in Figure 3-2: Project Vicinity Map.

3.2 Existing Site and Surrounding Conditions

The subject properties consist of 15 buildings with a total of 161 existing residential units. The majority of the existing buildings are approximately 50 years old, with a few older structures that are up to 100 years old. Existing structures range from one to four stories in height, have a simple architectural style, and are reaching the end of their useful construction life. The buildings are part of the larger Woodland Park community, consisting mostly of multi-family residential uses in an established residential



Source: Google Earth, 2020

Figure 3-1: Regional Location

Woodland Park Euclid Improvements
Draft EIR

Not to scale

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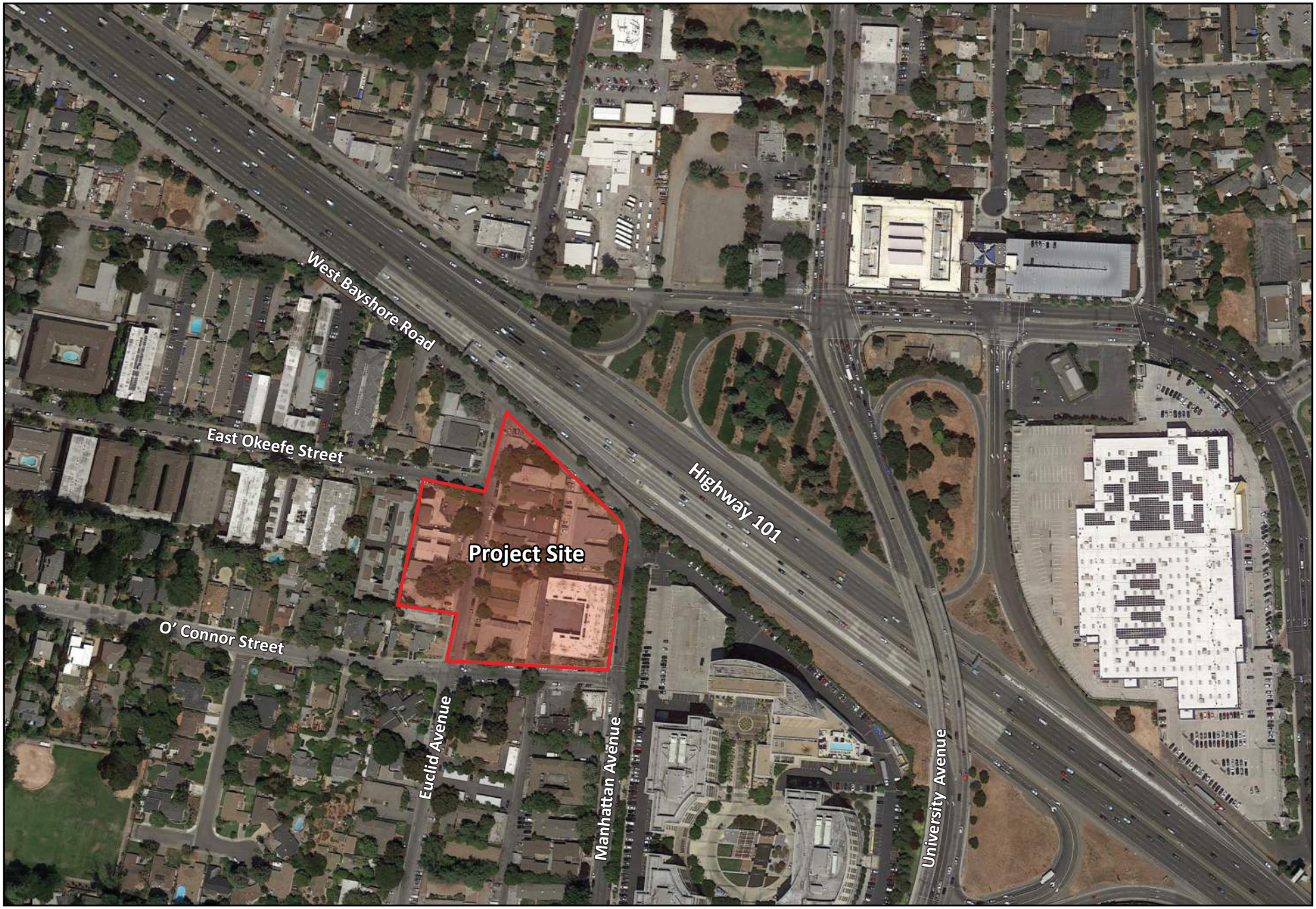

Source: Google Earth, 2020

Figure 3-2: Project Vicinity Map

Woodland Park Euclid Improvements
Draft EIR

Not to scale

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neighborhood. Surrounding land uses are also primarily residential, with some local serving neighborhood commercial. The Four Seasons Hotel/University Circle, complex, a mix of office and hotel uses, is located immediately to the southeast. An aerial view of the site and surrounding uses is shown in Figure 3-3: Existing Conditions.

3.3 Existing General Plan Land Use Designations and Zoning

3.3.1 General Plan and Zoning

Under the City of East Palo Alto's existing General Plan Vision 2035, the subject properties have designations of High Density Residential (HDR, 22-43 du/ac) or Urban Residential (UR, 43-86 du/ac). High Density Residential allows a range of multi-family housing types ranging from townhomes to multi-family apartments at moderate to high densities. The purpose of this designation is to provide for higher density multi-family housing to meet the City's desire for a variety of housing types. This designation is located in areas with a diverse mix of uses within walking distance of homes, as well as in neighborhoods that already exhibit a high degree of diversity in the type and density of residential housing.

Urban Residential also allows multiple family housing, but at higher densities. This designation is intended to support the development of very high-density housing in limited locations in the City. Mid-rise and high-rise residential development is encouraged, ideally supported by high-frequency public transit and located within walking distance of neighborhood services and amenities.

The corresponding zoning categories for these uses are R-HD-3, R-HD-5 and R-U. R-HD-5 allows a maximum height of 60 feet, while R-UHD carries a maximum height of 7 stories and 75 feet.

3.3.2 Westside Area Plan

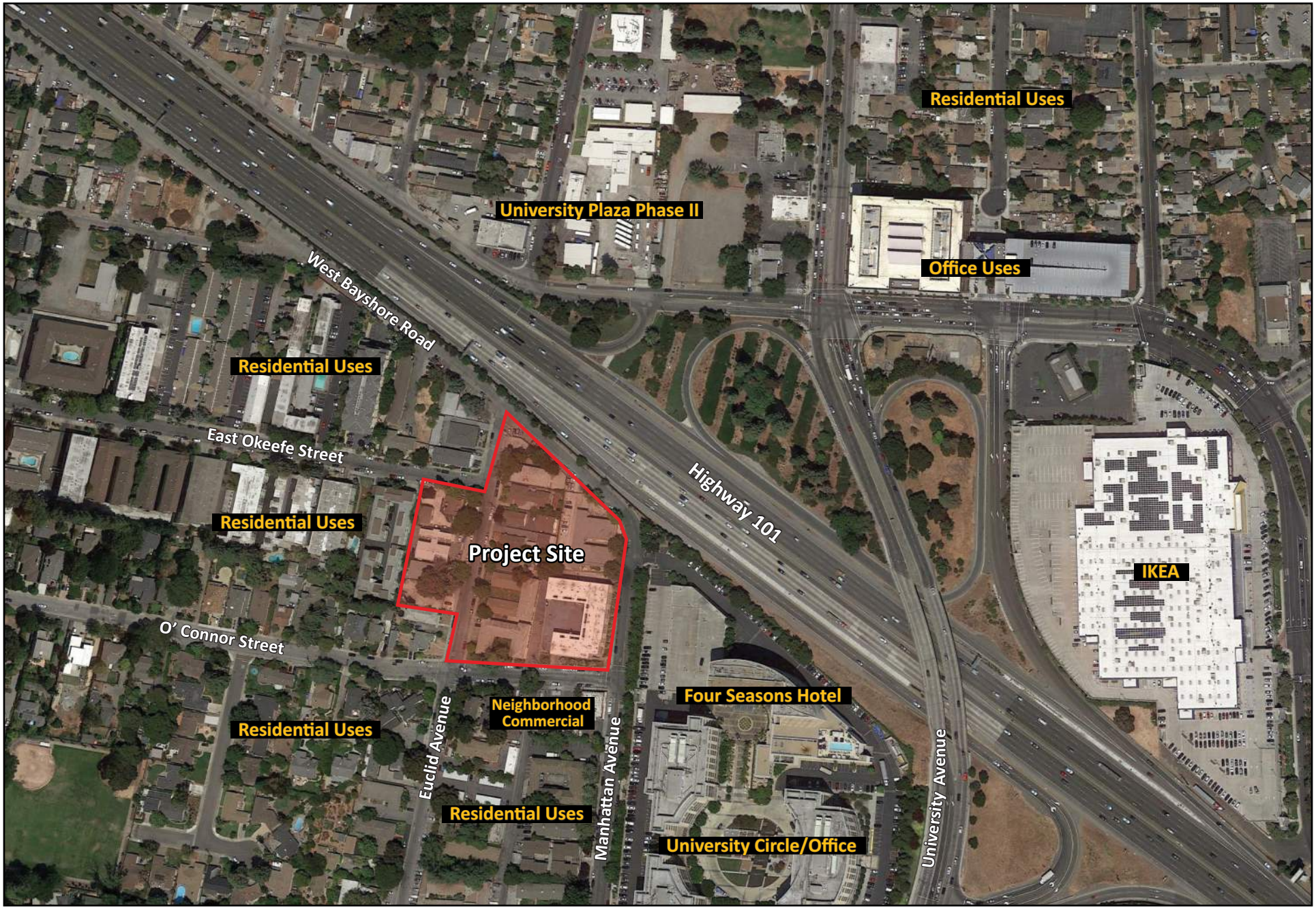
The project is located within the boundaries of the Westside Area Plan. The Westside area encompasses 107 acres, or approximately eight percent of the City's land area. With relatively high population densities, however, the Westside houses 22 percent of East Palo Alto's residents.

The Westside Area Plan provides a detailed vision, guiding principles, and goals and policies for the Westside area of East Palo Alto. The Plan focuses on tools to preserve and increase the stock of affordable housing and improve the quality of life for residents. The Westside Area Plan guidelines seek to avoid displacement, provide affordable rental housing, maintain population diversity, improve housing quality, maintain diversity of housing types and unit sizes, and beautify the Westside. The Plan contains specific project application requirements for development projects within its boundaries, particularly projects that propose to intensify land uses.

3.4 Project Objectives

3.4.1 Background

Section 15124 of the CEQA Guidelines requires that a clearly written statement of objectives be presented in an EIR to help lead agencies develop a reasonable range of alternatives, and to aid the decision makers in preparing findings of significant effects or a statement of overriding considerations, as necessary.



Source: Google Earth, 2020

Figure 3-3: Existing Conditions

Woodland Park Euclid Improvements
Draft EIR

Not to scale

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3.4.2 Statement of Project Objectives

Project Purpose

With no resident displacement, the applicant is proposing to replace several aging, outdated structures with new mixed-income buildings that will replace all existing rent-stabilized units with new rent-stabilized and/or affordable units, increase the housing supply, and provide better parking and mobility options.

Project Objectives

1. **Increase Housing Opportunities**. Develop high quality residential spaces that reflect modern lifestyles, while increasing the number of units in the city in response to acute housing demand.

2. **Avoid Displacement**. Develop the project allowing all existing tenants to stay within Woodland Park units, with the right of return to newly constructed replacement units at their same rent-stabilized rents.

3. **Preserve Housing Affordability and Stability**. Provide a combination of rent-controlled (rent-stabilized) and inclusionary housing opportunities to meet key City objectives. Preserve the Rent Stabilization Program, ensure housing stability for future tenants, and retain the below market rents of existing tenants.

4. **Balanced Community Benefits**. Provide a balanced mix of community benefits including affordable housing, Westside Area Plan amenities and infrastructure improvements.

5. **Respond to Community Involvement**. Continue to create and seek opportunities to engage with tenants and the community throughout the process with an ongoing Community Involvement Strategy.

6. **Provide Better Parking and Mobility**. Improve parking and mobility options, including on-site parking and a new bus stop, and improved options for walking, biking, and transit. Develop and implement a Transportation Demand Management (TDM) plan.

7. **Provide Safer, Healthier Buildings**. The buildings at Woodland Park are between 50 and over 100 years old, and many are at the end of their useful lives. They were built inexpensively to old standards and were not always cared for by previous owners. The project intends to create safer, healthier buildings that meet or exceed modern seismic and other life safety standards.

8. **Ensure a Fiscally Responsible Project**. Ensure that the City benefits fiscally with project completion and operation.

9. **Address Infrastructure Needs and Clear Community Benefits.** Ensure that any necessary public infrastructure and amenities necessary to serve the project are also consistent with the City's capital improvement goals for the Westside.

10. **Further the Objectives of the General Plan and Westside Area Plan**. Maintain consistency with the 14 Guiding Principles of the Westside Area Plan and enhance connectivity to the rest of East Palo Alto.

3.5 Project Components

3.5.1 General Plan Amendment

The project proposes adding a Neighborhood Center Residential Overlay (NCO) designation to the General Plan. This overlay would allow for neighborhood-serving commercial and community uses on the ground floor, additional housing units beyond current densities, and increased building heights on High Density Residential (HDR) and Urban Residential (UR) land use designations that underly the NCO overlay designation. While this designation would apply only to the Woodland Park Euclid Improvements project boundaries at this time, the designation could potentially be applied to other properties in the future.

3.5.2 Proposed Zoning Overlay

The NCO overlay designation is intended to support the development of high-density housing in limited locations in the City that have appropriate surrounding context. Mid-rise and high-rise residential development is encouraged, together with neighborhood-serving commercial and community uses to increase the availability of neighborhood services and amenities within walking distance of residents. Parking structures and innovative parking strategies are encouraged.

As proposed, allowed uses under the NCO overlay could include high-density, multi-family dwellings such as rental apartments, condominiums, single room occupancy (SRO) developments, neighborhood-serving commercial, and parks/plazas/open space, education, cultural, public assembly, and public uses. Other uses may be allowed if they are compatible and serve the needs of residents living in the higher-density residences. Existing and proposed General Plan and zoning maps are shown in Figure 3-4: Existing and Proposed General Plan and Zoning.

Existing General Plan Land Use and Zoning

Proposed General Plan Land Use and Zoning

LEGEND

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Urban Residential
- Mixed Use Low
- Mixed Use Corridor
- Mixed Use High
- Neighborhood Commercial
- General Commercial
- Office
- General Industrial
- Industrial Buffer
- Resource Management
- Parks/Recreation/Conservation
- Public/Institutional
- Project Site
- Neigborhood Center Residential Overlay (NCO)

Source: City of East Palo Alto, 2020

Figure 3-4: Existing and Proposed General Plan and Zoning

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Table 3-2: Development Standards for the Neighborhood Center Residential Overlay (NCO) below summarizes the allowable development standards under this new designation.

Ground floor Local Serving Commercial uses within the NCO overlay include businesses capable of fulfilling neighborhood needs, such as convenience stores, produces markets, cafes, coffee shops, bakeries, restaurants with limited hours, pharmacies, health clinics, banks and credit unions, and personal services providers such as fitness clubs.

3.5.3 Parcel Merger/Consolidation

As proposed, the project would merge a grouping of 14 individual parcels into two parcels on either side of Euclid Avenue. The existing individual buildings on these parcels would be replaced by the development of the project's three buildings (Buildings A, B and C). This action would be accomplished with the Tentative Parcel Map.

Table 3-2: Development Standards for the Neighborhood Center Residential Overlay (NCO)

Development Component	Development Standard
Density	180 dwelling units/acre (du/ac)
Setbacks	
Front	5 feet
Corner vision triangle	12 feet
Side/Street Side	5 feet
Rear	5 feet
Height	15 stories or 135 feet, whichever is greater
Open Space	Common Open Space and Private Open Space may be aggregated without limitation
Common Open Space	50 square feet (sf) per unit
Private Open Space	
Ground Floor Units	50 sf
Upper Floor Units	50 sf
Parking	1.0 parking stalls per unit with minimum dimensions of 8.5' x 16.5' per stall

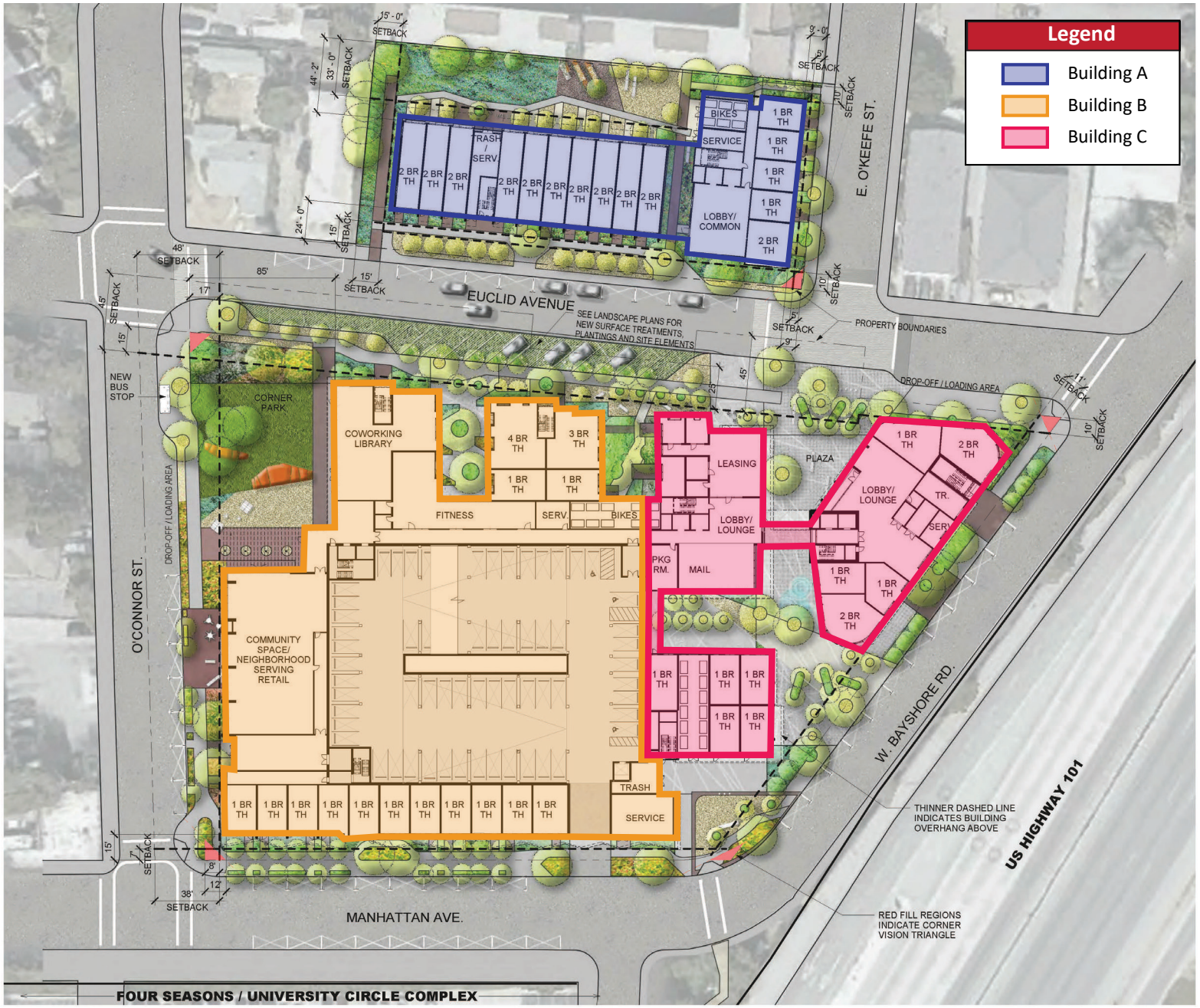
Source: Project Application, September 2019.

3.5.4 Site Layout and Architectural Design

The project would be divided into two main sections on either side of Euclid Avenue. The south side of Euclid contains the majority of the development (Buildings B and C), including residential structures with a lobby/common area, central parking garage, community space/neighborhood serving retail and open space/park area. Building B has nine levels with a height of approximately 85 feet. This building wraps around the central parking garage on three sides. Building C includes the tallest structures at 13 levels (approximately 120 feet at the roof level and 130 feet to top of parapet). Building C is divided into two main structural sections connected by elevated walkways at Levels 3 through 9.

North of Euclid is a single residential building (Building A) with a lobby area and community garden space. This building is six levels and approximately 60 feet in height. See Figure 3-5: Proposed Site Plan.

The preliminary architectural design calls for contrasts in building sizes and shapes. The taller high rise structures of Building C have a more modern appearance with smoother textures, more steel and glass, cement board, lighter colors, and more vertical design elements. The lower residential buildings incorporate warmer, darker colors and richer textures including textured concrete with vine cover, vertical wood siding, brick veneers and painted perforated metal screening. See Figures 3-6 and 3-7: Building Elevations.



Source: David Baker Architects, 2021

Figure 3-5: Proposed Site Plan

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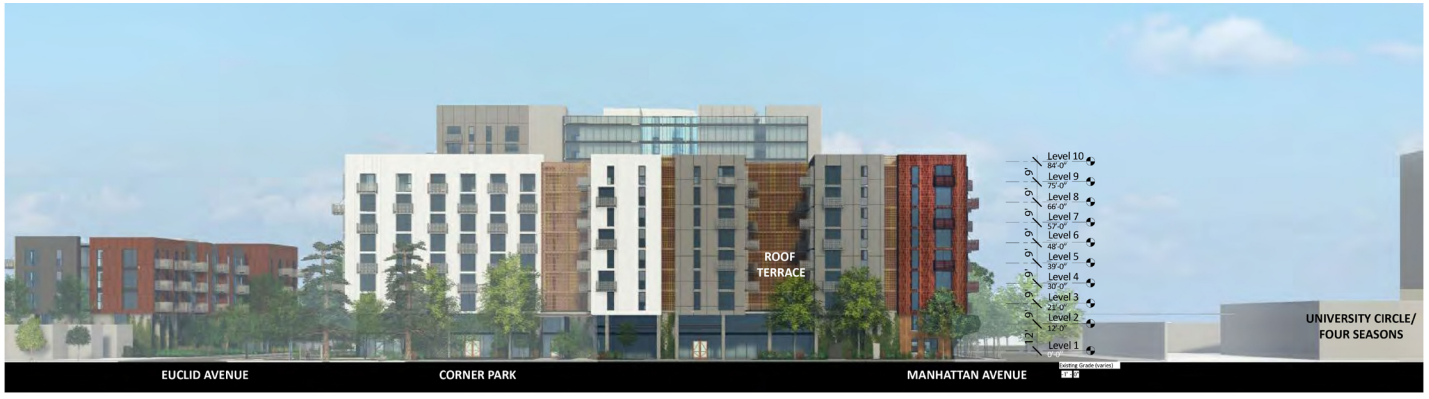
W. BAYSHORE RD. ELEVATION - EAST BUILDING

EUCLID AVE. ELEVATION - EAST BUILDING



O'CONNOR ST. ELEVATION - EAST BUILDING

Source: David Baker Architects, 2021

Figure 3-6: Building Elevations

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Manhattan Avenue Elevation - East Building

East O'Keefe St. Elevtion - West Building

Euclid Ave. Elevation - West Building

Source: David Baker Architects, 2021

Figure 3-7: Building Elevations

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3.5.5 Mix of Uses

The project's development program under the NCO overlay includes a mix of residential, neighborhood serving retail, community space and open space. Table 3-3: Existing and Proposed Uses below summarizes existing and proposed uses, while Table 3-4: Existing and Proposed Mix of Residential Unit Sizes summarizes the proposed mix of residential unit sizes.

Table 3-3: Existing and Proposed Uses

Use/Component	Existing	Proposed
Area	3.9 acres	3.9 acres
Number of Buildings	15	3
Total Residential Units	161	605
Height	1 to 4 stories	6 to 13 levelss (up to 120 feet to roof level of tallest structure and 130 feet to top of parapet)
Off-street Parking Stalls	155	625 (multi-level garage)
On-street Parking Stalls	52	71
Neighborhood-Serving Retail	None	Up to 5,000 sf
Community Space	None	Up to 3,000 sf
Publicly Accessible Open Space	None	+27,666 sf (0.64 acres) including neighborhood park

Source: Project Application, September 2019, as revised November 2020.

Table 3-4: Existing and Proposed Mix of Residential Unit Sizes

Unit Type	Existing Mix	Proposed Mix
Studio	33%	38%
1 bedroom	64%	33%
2 bedroom	2%	29%
3-4 bedroom	1%	<1%

Source: Project Application, September 2019.

3.5.6 Open Space, Landscaping and Tree Protection

The project is proposing a combination of Common Open Space, Private Open Space and Publicly Accessible/Usable Open Space. Common Open Space is shared area for the use of residents and guests, while Private Open Space includes enclosed areas adjoining individual units reserved for the exclusive private use of residents (such as balconies, decks, porches, etc.). Publicly Accessible/Usable Open Space areas are outdoor, unenclosed open space areas that are unrestricted and generally consist of the areas at ground level fronting Manhattan Avenue, Euclid Avenue and West Bayshore Road. Table 5 below summarizes each type of open space use. See Figure 3-8: Open Space Plan.

Table 3-5: Open Space Categories

Open Space Category	Total Area (square feet)
Common Open Space	28,922
Private Open Space	13,807
Public Open Space	27,666
Total:	**70,395 (1.62 acres)**

Source: Project Application, November 2020.

LEVEL 1 PLAN - OPEN SPACE DIAGRAM

LEVEL 3 PLAN - OPEN SPACE DIGRAM

EAST PALO ALTO DEVELOPMENT CODE 18.08.010:

Common Open Space. The land area within a residential or nonresidential development not individually owned or dedicated for public use and designed, intended, and reserved exclusively for the shared enjoyment or use by all the residents and their guests. Does not include enclosed spaces/facilities (e.g., community center, meeting rooms, etc.)

Private Open Space. An outdoor or unenclosed area directly adjoining and accessible to a dwelling unit, reserved for the exclusive private enjoyment and use of residents of the dwelling unit and their guests (e.g., balcony, deck, porch, terrace, etc.). Boundaries are evident through the use of fences, gates, hedges, walls, or other similar methods of controlling access and maintaining privacy.

Publicly Accessible / Usable Open Space. An outdoor or unenclosed area within a residential development on the ground, or on a roof, balcony, deck, porch or terrace, designed and accessible for outdoor living, active or passive recreation, pedestrian access, or landscaping. Parking facilities, driveways,utility or service areas and submerged land do not constitute usable open space.

Source: Woodland Park Communities, 2021

Figure 3-8: Open Space Plan

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Landscaping within the site plan and along perimeter streets would consist of trees, groundcovers, perennials, and shrubs. Tree species include white ash, marina strawberry, blue oak, red push pistache, kindred spirit oak and ironwood. See Figure 3-9: Landscape Site Plan. Twenty-one trees are proposed for removal, while 40 trees would be preserved on the parcels proposed for residential development.

The water tank site at 375 Donohoe Street contains a mix of native and non-native ornamental trees including redwoods, fir, oaks, juniper and orange. There are approximately 10 trees at this location located around the perimeter of the parcels. Approximately five additional trees may need to be removed (with five preserved) in this location to accommodate tank construction and related improvements.

3.5.7 Access, Circulation and Parking

The project would maintain the local circulation network without blocking or altering existing routes or traffic flow. A 625-space central parking garage would be located in the center of the project with a main garage access off of Manhattan Avenue, resulting in fewer driveway access points along local roads. Angled street parking would be provided on Manhattan and Euclid avenues to optimize and increase street parking. See Figure 3-10: Building Section, illustrating a cross section of the parking structure. Drop off zones are provided near building entrances. Pedestrian access would be provided through common plaza areas and perimeter sidewalks enhanced with landscaping. With the project, existing sidewalks will remain on both sides of the street and additional improvements will be constructed to improve pedestrian facilities adjacent to the project. These improvements include constructing high visibility crosswalks along Euclid Avenue at O'Conner Street and O'Keefe Street and bulbouts for the north leg of the intersection of Euclid Avenue and O'Conner Street. The project will also provide bicycle parking for residents, employees, and customers. See Figure 3-11: Parking and Circulation. Building access would be controlled at central entry points.

3.5.8 Transportation Demand Management

The project applicant is preparing a Transportation Demand Management (TDM) plan as part of the overall project description. The intent of the TDM plan is to identify alternative transportation options available to residents to reduce vehicle trips and secondary effects such as vehicle emissions. The project's TDM plan, while still being prepared, is anticipated to include a combination of measures that fall into two primary categories:

Design Elements. TDM measures that the applicant would incorporate into the project design and construction. These include measures such a vehicle drop-off and pick up areas that are off set from the street and sidewalk, secured bicycle parking and/or lockers, and direct access to neighborhood retail and other uses.

Source: Woodland Park Communities, 2021

Figure 3-9: Landscape Site Plan

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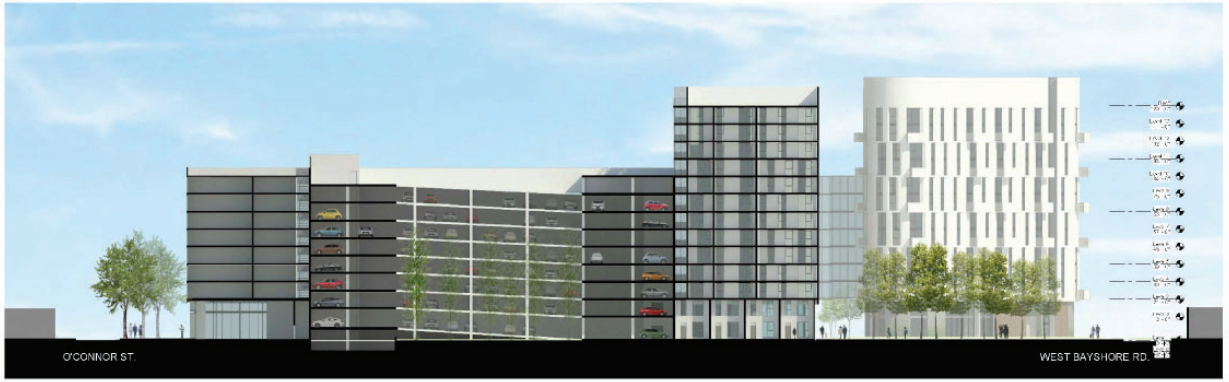
Building Section - N/S West Building



Buliding Section - N/S

Buliding Section - E/W

Source: Woodland Park Communities, 2020

Figure 3-10: Building Section

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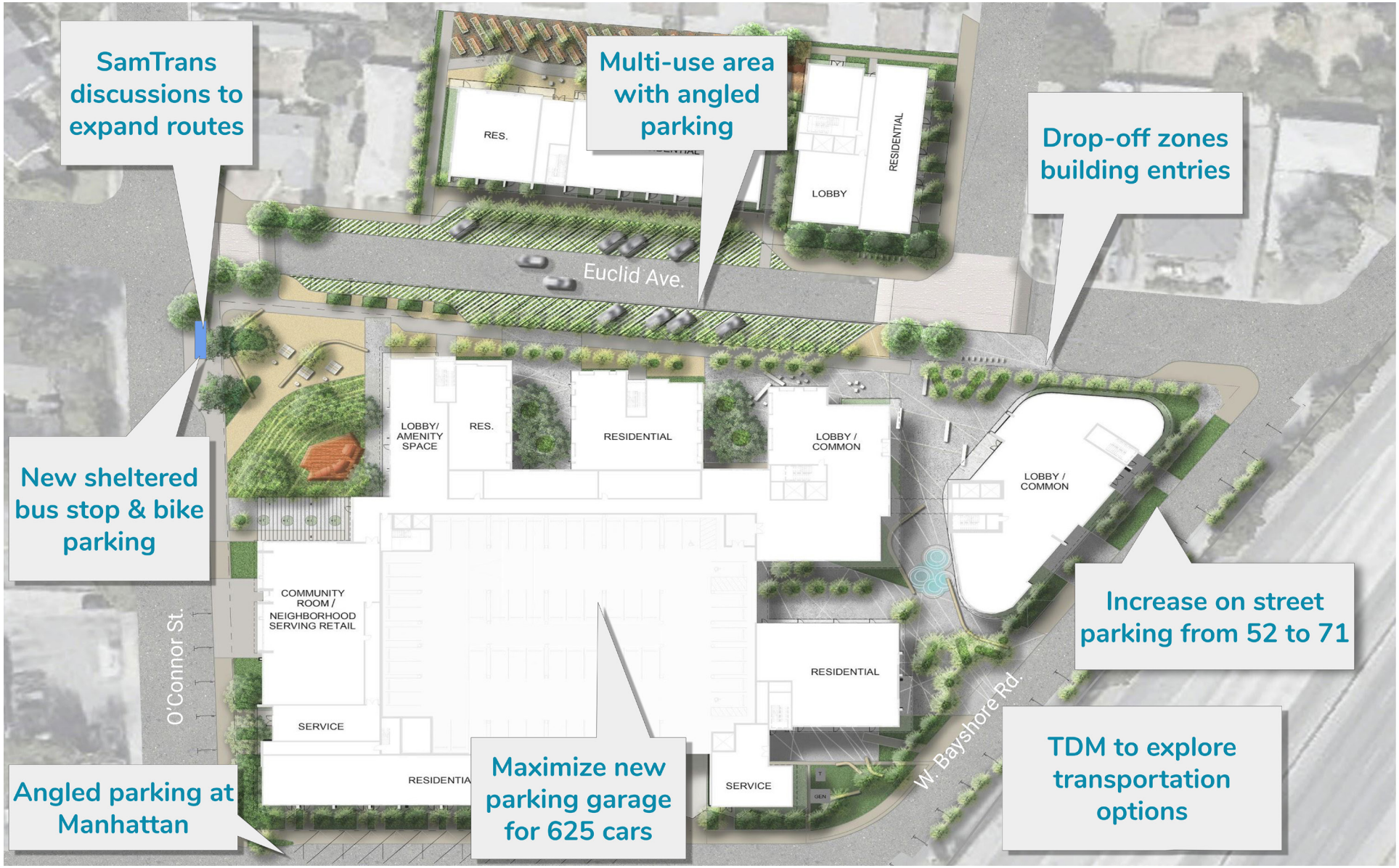

Source: Woodland Park Communities, 2020

Figure 3-11: Parking and Circulation

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Program Operations. TDM measures that would be tailored to the end user (project residents) to incentivize and change transportation behaviors and may evolve over the life of the project. Such measures could include:

- Bicycle sharing and financial incentives
- Operation of on-demand shuttle service to nearby destinations
- TDM support programs (internal coordinator and monitoring efforts)
- Incentives and subsidies
- Parking Management

Additional TDM measures may be considered or recommended as appropriate in order to reduce single private use of motorized vehicles, reduce parking demand, and to maximize trip reduction associated with the project.

3.5.9 Stormwater Management

As a project that will redevelop an existing developed site, the project footprint is limited to the existing developed footprint; however, the project as designed would result in a net increase of 6,180 square feet (sf) of impervious surface under post-project conditions, an increase over existing conditions of four percent at the Euclid Avenue site. The water tank site (see below) would result in additional impervious area of about 5,000 square feet. The preliminary stormwater management plan identifies 140,025 sf of impervious area, or 86 percent impervious coverage at the Euclid Avenue site, requiring treatment areas sized using the "4 percent method" flow-based sizing criteria in the 2014 San Mato County C.3 Stormwater Technical Guidance Handbook. Stormwater treatment techniques would include a combination of integrated management practices, primarily bioretention areas and permeable pavers within 20 drainage management areas.

3.5.10 Water, Wastewater, Solid Waste and Dry Utilities

The project site would be served by local public utility and service providers, including:

- Pacific Gas and Electric
- City of East Palo Alto/American Water Enterprise
- East Palo Alto Sanitary District
- South Bay Waste Management Authority
- Comcast, AT&T, local cable and telecommunications providers

East Palo Alto's water supply and distribution system is outdated and is not designed to service planned growth and intensification in the City. To accommodate the projected increase in water demand and fire flow requirements from the project and the Westside in general, the City is studying several upgrade options, including an emergency intertie with the City of Palo Alto, as well as water storage tanks of various sizes. For planning and analysis purposes, this EIR assumes that a 1.5-million-gallon steel water storage tank located at 375 Donohoe Street would be constructed concurrent with the project to provide much improved fire flow and pressure to the project as well as the extended City system. The tank and related infrastructure and points of connection would either be constructed by the applicant or

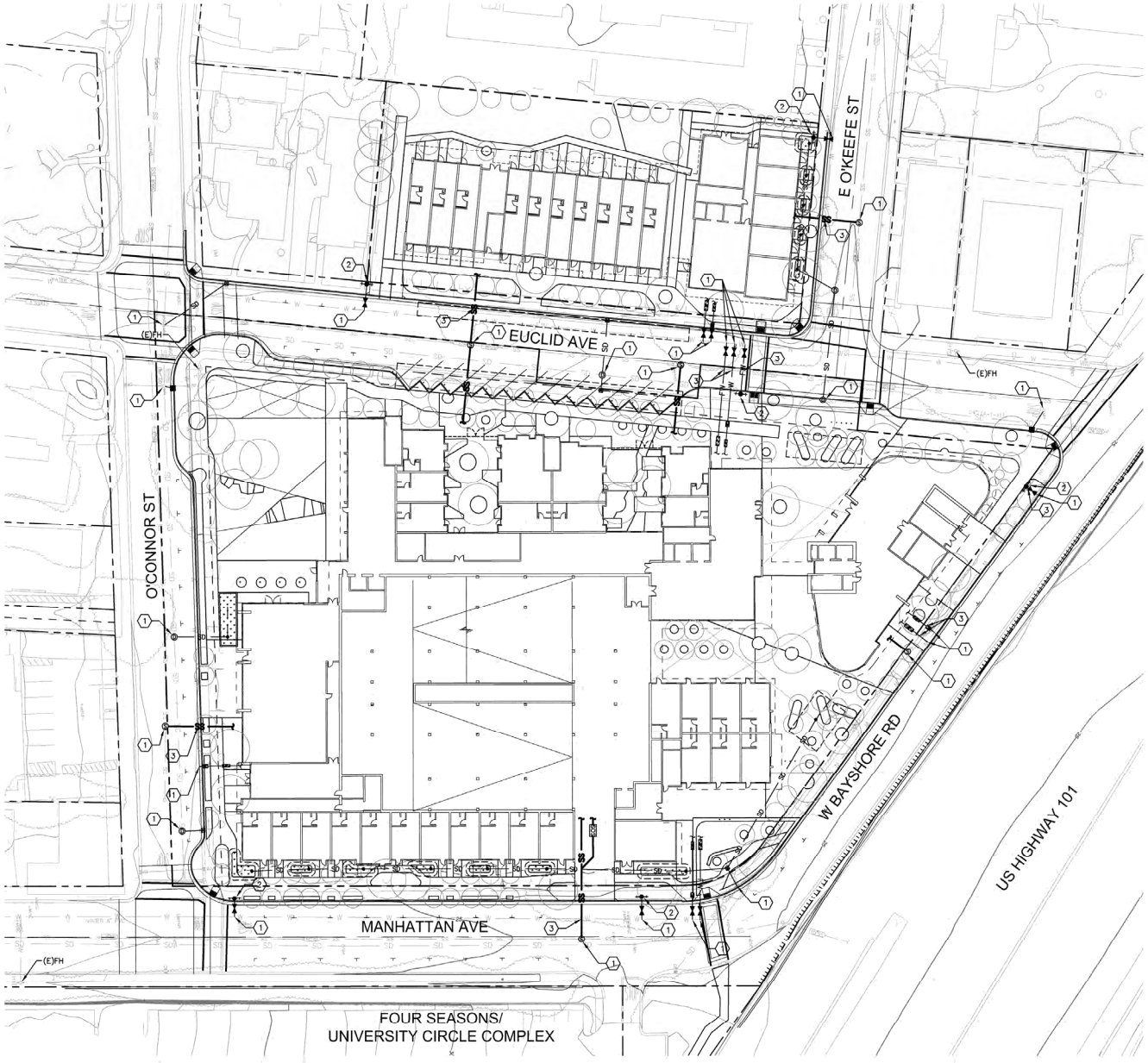
funded by the applicant and constructed by the City. This tank and related pump infrastructure would tie into the existing water system to service the project as improve water system performance City-wide as a public benefit.

Connections for service to the project currently exist within public rights of way and would be upgraded as necessary to service the project's demands. Several new points of connection will be required to existing infrastructure in Euclid Avenue, Manhattan Avenue, O'Connor Street and West Bayshore Road. Figure 3-12: Utility Plan shows the project's preliminary utility connections. Figure 3-13: Water Tank Location shows a conceptual layout for the water tank parcel.

3.5.11 Sustainability and Conservation

As submitted for review, the project would construct and operate in accordance with the standards established by Leadership in Energy and Environment Design (LEED). The project's goal is to attain LEED Silver standards at minimum, or Gold standards as conditions permit. To attain such standards, a project must integrate several sustainable design features to maximize energy efficiency, reduce waste streams, conserve water and mitigate greenhouse gas emissions. The project's proposed sustainability features include:

- Construction Management Plan consistent with City of East Palo Alto requirements for Construction Debris Reuse and Recycling Plan and pursuant to CalGreen mandates of 65% diversion of solid waste to recycled material
- Use of low-VOC finishes and materials
- Non-glare and bird deterrent glass finishes
- Landscape and open space designed with drought tolerant native and adaptive species
- Ample public and private green spaces to reduce the urban heat island effect, improve stormwater runoff quality and reduce greenhouse gas emissions.
- Automated energy management technology
- Energy efficient light (LED lighting)
- Electric Vehicle (EV) charging stations
- Rainwater harvesting
- Low flow plumbing fixtures
- Solar/PV panels



Source: BKF Engineers, 2021

Figure 3-12: Utility Plan

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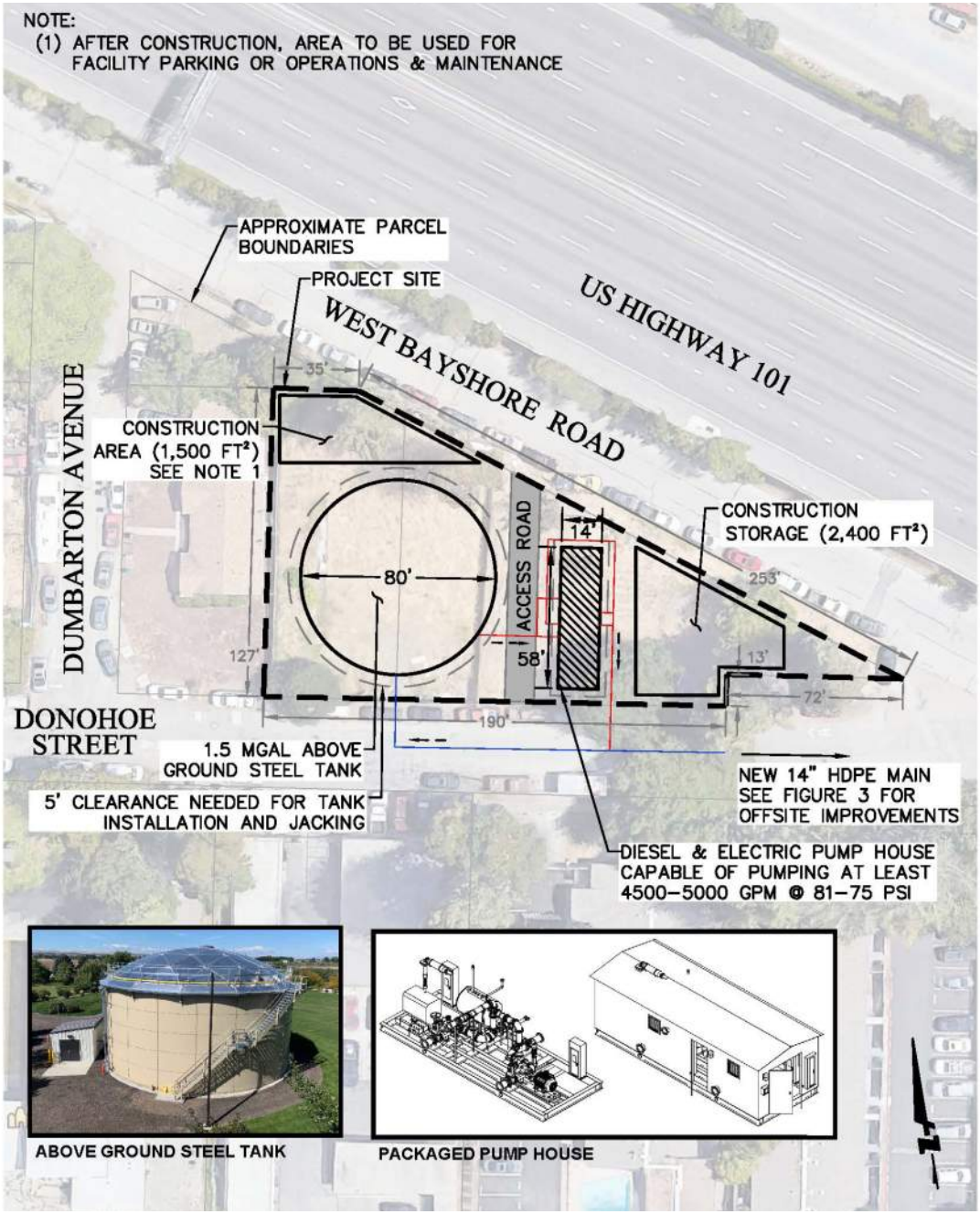

Source: BKF, 2020

Figure 3-13: Water Tank Location

3.6 Other Required Development Program Requirements

Based on the application submittal requirements for projects within the Westside Area Plan boundaries, the project submittal and description include a series of additional plans, programs, and/or reports. This discussion is provided for informational purposes as the City continues to review the details of the project's affordable housing plan. This aspect of the project is important for understanding the proposal relative to City housing programs; however, this component will have little if any influence on the physical environmental impacts of the development.

3.6.1 Tenant Protection, Relocation and Affordable Housing Plan

The applicant is proposing to replace the existing 160 existing rent-stabilized apartments with 605 newly constructed apartments, 26% of which would be deed-restricted rent-stabilized apartments, replacing the existing apartments one for one. The remaining units would be market rate. This plan, to be reviewed and considered independently from the EIR, currently includes the following components:

- Replacement of 100% of the existing 160 rent-stabilized apartments with newly constructed deed-restricted rent-stabilized apartments that will be protected into the future.
- Current tenants of existing rent-stabilized apartments would have the guaranteed right to relocate to a replacement apartment owned by Woodland Park Communities (with the same number of bedrooms) within the Woodland Park Westside neighborhood, with the same rent-stabilization protections, and with no rent increases (except as normally determined by the Rent Board), while the Euclid Improvements are being constructed.
- Tenants relocated to a replacement apartment have the right to return to a newly constructed apartment, with the same number of bedrooms, with the same rent-stabilization protections, and with no rent increases (except as normally determined by the Rent Board), when the Euclid Improvements are complete.
- Tenants would receive professional moving services to and from replacement housing, at no cost to Tenants.
- Woodland Park Communities proposes to have a Community Engagement Manager and bilingual community engagement team, including relocation experts from an external consultant, to assist tenants with relocation, and to implement a variety of events, meetings, and programs to create and maintain connections with the community.

3.6.2 Community Impact Report

Consistent with the Westside Area Plan Policy 5.5 for applications proposing to increase density, the applicant has prepared and submitted a Community Impact Report for City review and consideration. This plan is a component of the project but will also be considered independently from the EIR. The Community Impact Report provides additional details regarding rent levels, tenant protections, applicant commitments, affordable housing, rent stabilization, parks and open space, mobility, parking and infrastructure.

3.6.3 Fiscal Impact Analysis

The project application contains a draft fiscal impact analysis. This draft study projects a net fiscal benefit to the City's general fund of about $1.04 million per year, increasing to about $1.33 million per

year in the future. Over a 20-year time horizon, the Euclid Improvements are expected to generate a cumulative net positive fiscal impact of about $23 million.

3.6.4 Community Involvement Strategy

The project proponents are engaged in an on-going, multi-year community engagement process to involve existing residents and neighbors in all aspects of the planning, design, relocation and implementation phases of the project. This community involvement strategy has been supplied to the City with the application materials.

3.7 Project Demolition, Phasing, Construction and Staging

All tenant relocation activities would be completed prior to the start of any demolition and site clearing.

The project is proposed to be constructed as a single action, but with primary structures constructed in sequence to allow planned construction staging and flow of materials and equipment. The general sequence of activity would involve demolition, excavation, utility relocation, site grading and foundations, building erection, and final finishes.

Construction activities are anticipated to last approximately 18 to 24 months. Initial site grading, clearing and excavation is expected to last approximately four to six months. Consistent with the City's noise ordinance, construction would generally occur Monday through Friday and be limited to the hours of 8:00 a.m. to 7:00 p.m. on weekdays and from 9:00 a.m. to 4:00 p.m. on Saturdays. No work would take place on Sundays or federal, state or local holidays.

Construction work would consist of demolition (see above), site preparation, excavation, shoring, erection of new structures, water tank construction and all interior and exterior components. Construction equipment would include heavy equipment as bulldozers, scrapers, backhoes, excavators, loaders, compactors, pile drivers, impact hammers, cranes and lifts, rollers, paving machine, and concrete pumping equipment.

Buildings B and C within the block bounded by West Bayshore Road, Manhattan Avenue and O'Connor Street would be supported on piles anchored at depth or ground improvements. The ground floor slab within these buildings (including the parking garage) would consist of a structural slab. This type of construction would require off-haul of excavated material from the site from the removal of approximately the top two feet of soil in this location.

For the remainder of the project and Building A along Euclid and E. O'Keefe Street a mat foundation on the ground surface is currently proposed. This foundation type would require off haul of up to six inches of soil.

3.8 Project Operations and Maintenance

The residential and commercial spaces would operate year-round, with the residential structures managed and maintained by Woodland Park Communities. The parking structure and building entrances would be access controlled for privacy and security. Commercial uses would operate during hours typical of retail businesses. Typical site maintenance would include regular landscaping maintenance, window washing, building maintenance and security.

3.9 Requested Entitlements and Permits

Woodland Park Communities has filed applications with the City of East Palo Alto seeking a series of related approvals, entitlements and permits to implement the Euclid Improvements Project. These include:

- General Plan/Westside Area Plan Amendment
- Zoning and Development Code Change (Neighborhood Center Residential Zoning Overlay)
- Conditional Use Permit (for all proposed changes of use including the water tank)
- Planning Commission Design Review
- Tentative Parcel Map (4 or fewer lots)
- EIR Certification
- Tree Removal Permit
- Grading, Building and other permits necessary for construction and occupancy
- Development Agreement

3.10 References

City of East Palo Alto. 2017. *Vista 2035 East Palo Alto General Plan*.

City of East Palo Alto. 2020. Municipal Code.

City of East Palo Alto. 2020. Water Safety Strategy Blueprint.

Woodland Park Communities. 2019. Project application materials and plan sets (September 2019 and November 2020).

4 Introduction to Environmental Analysis

4.1 Environmental Assessment Methodology

This introductory chapter is for informational purposes, to assist the reader to understand the content of the EIR, common terms used in the impact analysis, and how a lead agency makes determinations regarding the significance of a project's impacts.

The following environmental topics are evaluated in Chapters 5 through 18 of this Draft EIR ("DEIR"):

- Aesthetics
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Energy Use and Conservation
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use, Population and Housing
- Noise and Vibration
- Public Services and Recreation
- Transportation and Circulation
- Utilities and Service Systems

4.1.1 Environmental Baseline/Existing Conditions

CEQA Guidelines Section 15125(a) requires that an EIR include a description of the existing physical environmental conditions in the project vicinity, from both a local and regional perspective. The baseline environmental conditions are used by the lead agency to determine whether the impacts of a project are considered significant. The purpose of this requirement is to give the public and decision makers the most accurate and understandable picture of the project's likely near-term and long-term impacts.

The environmental baseline conditions in this EIR can be described generally as the on-site and surrounding exterior physical environmental conditions on the ground that existed as of April 22, 2020 (the time of publication of the Notice of Preparation [NOP]), pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15125. The existing conditions and uses on the Woodland Park project site consist of 15 structures with a total of 161 existing residential units. The majority of the existing buildings are approximately 50 years old, with a few older structures that are nearly 100 years old.

4.1.2 Regulatory Framework

This subsection in each chapter of the EIR identifies applicable federal, state, regional, and local plans, policies, laws, and regulations that apply to the technical area of discussion. In some cases, the required application of these regulations serves to mitigate the potential impacts of a project.

4.1.3 Thresholds of Significance

The environmental analysis identifies the significance thresholds (i.e., the condition or state, which if reached or surpassed by the proposed project, would signify a negative or adverse physical change to the environment [environmental impact]). These standards of significance are used to determine when thresholds are crossed when the application of mitigation measures is necessary. These thresholds are

derived primarily from Appendix G of the State CEQA Guidelines, General Plan policies, ordinances, generally accepted professional standards, and quantified thresholds established by the City of East Palo Alto or other agencies (such as level-of-service standards for traffic impacts and pollutant emission thresholds adopted by the Air Quality Management District).

4.1.4 Environmental Impacts and Mitigation Measures

Impacts

This subsection in each chapter of the EIR describes changes that would potentially result to the existing physical environment should the proposed project be approved, in accordance with State CEQA Guidelines Sections 15126 and 15126.2. Impact "statements" are numbered sequentially within each chapter. For example, impacts discussed in Chapter 5 (Aesthetics) are numbered AES-1, AES-2, etc.; impacts in Chapter 10 (Geology and Soils) are numbered GEO-1, GEO-2, etc. A discussion that provides supporting analysis and justification for the impact determination is presented. If mitigation required – or if project impacts can be addressed by existing policies or regulations - those measures are identified, and a concluding statement is presented that describes the level of significance after mitigation is applied.

Mitigation

Pursuant to State CEQA Guidelines Sections 15002, 15021, and 15126.4, mitigation measures are required (as feasible) when significant impacts are identified. Unless otherwise noted, all mitigation measures contained herein are proposed by the lead agency. If a mitigation measure itself would cause a significant impact, in addition to the impact caused by the proposed project alone, that impact is also discussed, although at a lesser level of detail than the project impact (pursuant to State CEQA Guidelines Section 15126.4 (A)(1)(d)). "Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally-binding instruments" (pursuant to State CEQA Guidelines Section 15126.4(A)(2)), and "mitigation measures must be consistent with all applicable constitutional requirements" (pursuant to State CEQA Guidelines Section 15126.4(A)(4)).

Mitigation Monitoring

Public Resources Code Section 21081.6 establishes two distinct requirements for agencies involved in the CEQA process. Subdivisions (a) and (b) of the section relate to mitigation monitoring and reporting, and the obligation to mitigate significant effects where possible. Pursuant to subdivision (a), whenever a public agency completes an EIR and makes a finding pursuant to Section 21081(a) of the Public Resources Code taking responsibility for mitigation identified in the EIR, the agency must adopt a program of monitoring or reporting which will ensure that mitigation measures are complied with during implementation of the proposed project.

4.1.5 Common Terminology Used in the Impact Analysis

This Draft EIR uses the following terminology to describe the environmental effects of the project:

- **No Impact**: Due to the nature or location of the project, this particular environmental impact will not occur. For example, underground facilities do not have the potential for long-term visual impacts.

- **Less Than Significant**: Although an impact may occur, it will not be at a significant level based on the standards described above. For example, construction-related air emissions that fall below the adopted standards are less than significant.
- **Less Than Significant with Mitigation**: In this case, there is an impact that may be potentially significant. However, the significance of this impact will be reduced to less-than-significant levels through adherence to and/or implementation of mitigation measures.
- **Significant and Unavoidable**: This determination is made for a potentially significant impact where there is either no mitigation available, or the recommended mitigation measures are not sufficient to reduce the impact to less-than-significant levels. This determination requires a Statement of Overriding Considerations, pursuant to CEQA guidelines Section 15093 (this would need to be adopted by the City Council as part of the resolution, prior to approving the project).

4.2 Effects Not Found to Be Significant

Pursuant to the CEQA Guidelines §15128, "An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." This chapter of the Draft EIR describes the resource areas which were found not to pose any potentially significant effects.

Based on the scope of the proposed project, comment letters in response to the NOP, site visits, review of project applicant materials and technical reports, and additional background research on the construction and operational features of the project, the following resource topics were found to not have impacts that would be considered potentially significant. These topics, therefore, are not subject to further detailed analysis in the EIR.

4.2.1 Agricultural and Forestry Resources

The project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the State Farmland Mapping and Monitoring Program (FMMP). It is designated as Urban and Built-Up Land (DOC, 2016). No Williamson Act contract applies to the project site. The project site does not currently comprise agricultural or forestry uses, and it is designated for High Density Residential/Urban Residential uses pursuant to the City of East Palo Alto General Plan and Zoning Ordinance. There would be no impact to agricultural and forestry resources.

4.2.2 Mineral Resources

The project site is not located within a Mineral Resource Zone as mapped by the California Department of Conservation (DOC) Division of Mines and Geology. The project site is not located within a mineral resource recovery zone and therefore there would be no impact to mineral resources.

4.2.3 Wildfire

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped the relative wildfire risk in areas of large population by intersecting residential housing density with proximate fire threat according to three risk levels, namely Moderate, High, and Very High. Wildfires are large-scale brush and grass fires in undeveloped areas. The proposed project is within an urbanized area and not within a Very-High Fire Hazard Severity Zone as mapped by CALFIRE. Therefore, there would be no impact at this location.

4.3 Cumulative Impacts

4.3.1 CEQA Requirements

Under the CEQA Guidelines, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the environmental impact report ("EIR") together with other projects causing related impacts" (14 CCR §15130(a)(1)). CEQA PRC §21000 et seq., an EIR must discuss cumulative impacts if the incremental effect of a project, combined with the effects of other projects is "cumulatively considerable" (14 CCR §15130(a)). Such incremental effects are to be "viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (14 CCR §15164(b)(1)). Together, these projects compose the cumulative scenario which forms the basis of the cumulative impact analysis.

Cumulative impacts analysis should highlight past actions that are closely related either in time or location to the project being considered, catalogue past projects and discuss how they have harmed the environment and discuss past actions even if they were undertaken by another agency or another person. Both the severity of impacts and the likelihood of their occurrence are to be reflected in the discussion, "but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion of cumulative impacts shall be guided by standards of practicality and reasonableness, and shall focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact" (14 CCR §15130(b)).

The analysis must be in sufficient detail to be useful to the decision maker in deciding whether, or how, to alter the program to lessen cumulative impacts. Most of these are undergoing, or will be required to undergo, their own independent environmental review under CEQA. Significant adverse impacts of the cumulative projects would be required to be reduced, avoided or minimized through the application and implementation of mitigation measures. The net effect of these mitigation measures is assumed to be a general lessening of contribution to cumulative impacts.

There are two commonly used approaches, or methodologies, for establishing the cumulative impact setting or scenario. One approach is to use a "list of past, present, and probable future projects producing related or cumulative impacts" (14 CCR §15130(b)(1)(A)). The other is to use a "summary of projects contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact" (14 CCR §15130(b)(1)(B)).

This EIR generally uses the list-based approach to provide a tangible understanding and context for analyzing the cumulative effects of a project. Past, present and/or probable future projects that could influence or contribute to related environmental effects are listed in Table 4-1 below. Figure 4-1: Cumulative Projects Considered and Included shows the past, present and/or probable future projects in relation to the proposed project site.

Source: Google Earth, 2020; East Palo Alto, 2020

Figure 4-1: Cumulative Projects Considered and Included

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Not to scale

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Table 4-1: Cumulative Projects Considered and Included

City	Project	Land Use
East Palo Alto	1039 Garden Street (KIPP School)	650 student high school
	2535 Pulgas Avenue	100,000 square feet (sf) Office
	2519 Pulgas Avenue	65,000 sf Office
	2194 University Avenue	2,500 sf Gas Station
	2050 University Avenue	180,000 sf Office
	660 Donohoe Street	200,000 sf Office
	630 Donohoe Street	105,000 sf Office
	2331 University Avenue	33 Multi-Family dwelling units (du)
	2111 University Avenue	233,840 sf Office
	1201 Runnymede Street	37 Multi-Family du
Menlo Park	300 Constitution Drive	962,400 sf Office, 200 room Hotel
	Menlo Gateway (Constitution Site)	494,726 sf, 7,420 sf Retail
	162-164 Jefferson Drive	249,500 sf Office
	115 Independence (Menlo Portal)	320 Multi-Family du, 33,100 sf Office, 1,608 sf Commercial
	123 Independence Drive	67 Townhomes, 316 Multi-Family du, 88,750 sf Office
	111 Independence Drive	105 Multi-Family du
	165 Jefferson Dr (Menlo Flats)	158 Multi-Family du, 14,400 sf Commercial
	141 Jefferson Dr (Menlo Uptown)	483 Multi-Family du, 2,000 sf Commercial
	3723 Haven Avenue	167 room Hotel
	1350-1390 Willow Road (Willow Village)	440,000 sf Retail, 1,500 du, 220 room hotel, 1,7500,000 sf Office
	1105-1165 O'Brien Drive	120,000 sf Office
	1350 Adams Court	260,000 sf Office

Source: City of East Palo Alto, 2020

Cumulative Impact Analysis Methodology

While the cumulative analysis focuses on the "project list" described above, the area within which a cumulative effect can also vary by resource. For example, air quality impacts generally affect a large area (such as the regional Air Basin), while cumulative transportation effects may be based on projected growth within a regional traffic model. For this reason, the geographic scope for the analysis of cumulative impacts is identified for each resource area in the following chapters.

The analysis of cumulative effects considers a number of variables, including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of each analysis is based on the topography surrounding the project site and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects, but not beyond the scope of the direct and indirect effects of the proposed project.

In addition, each project has its own implementation schedule, which may or may not coincide or overlap with the proposed project's schedule. This is a consideration for short-term impacts from the proposed project. However, to be conservative, the cumulative analysis assumes that all projects in the cumulative scenario are built and operating during the operating lifetime of the proposed project and residential development on the project site that may result from the proposed project.

4.4 References

City of East Palo Alto. 2020. Current planning project data.

California Department of Forestry and Fire Protection (CAL FIRE). 2019. FHSZ Viewer. Available online: https://egis.fire.ca.gov/FHSZ/. Accessed March 30, 2020.

Department of Conservation (DOC). 2016. *San Mateo County Important Farmland 2016*. Available online: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/. Accessed March 30, 2020.

Division of Mines and Geology (DMG). 1987. *Special Report-146: Part II*. Available online: https://maps.conservation.ca.gov/cgs/informationwarehouse/mlc/. Accessed March 30, 2020.

5 Aesthetics

5.1 Introduction

This section describes the potential aesthetic changes and effects upon existing visual resources that could be caused by implementation of the proposed project. The primary visual and aesthetic issues under review include potential obstruction of public views or vistas, scenic and aesthetic quality of the development (including scale and massing), the effects of shade and shadow, and the potential for additional sources of light and glare. Information used to prepare this section came from the following resources:

- Aerial/satellite Imagery
- Site visit photographs and field analysis
- Project application materials
- Visual representations and shadow study provided by the Project Applicant
- City of East Palo Alto Vista 2035 General Plan and Municipal Code

5.2 Scoping Issues Addressed

During the NOP public comment and scoping period for the proposed project, several comments were received regarding aesthetics and visual impacts. Comments received were generally concerned with the size and scale of the proposal relative to its surroundings, shade and shadow, and potential for glare from new reflective surfaces.

5.3 Determination of Existing Visual Quality

Key viewing points (KVPs) were selected to be representative of the most critical locations from which the proposed project would be seen. These locations were selected based on their usefulness in evaluating existing landscapes and potential impacts on aesthetics with various levels of viewer sensitivity, in different landscapes, and from various vantage points. Locations typically considered for the establishment of KVPs include those: 1) along major or significant travel corridors; 2) along local roads; 3) along recreational access areas, public parks and trails; 4) at designated vista points; and 5) from locations that provide good examples of the existing landscape context and viewing conditions. In this urban sector of East Palo Alto, public views are typically experienced from public roadways.

When analyzing existing aesthetic conditions, the elements of visual quality, viewer concern, visibility, number of viewers, and duration of view are considered. These parameters are then factored into an overall rating of viewer sensitivity.

Visual Quality. Visual quality is an expression of the visual impression or appeal of a given landscape (e.g. landforms, rock forms, water features, vegetative patterns, and cultural features). Visual quality is rated from low to high. Landscapes rated low are often dominated by visually discordant human alterations. Landscapes rated high generally are memorable because of the way the individual landscape features combine in a coherent and harmonious visual pattern. Also, those landscapes are typically free from discordant human alterations, so they retain their visual integrity.

Viewer Concern. Viewer concern addresses the level of interest or concern (from low to high) of viewers regarding an area's aesthetic values and the potential for visible change to the landscape. Viewer concern is closely associated with viewers' expectations for a given viewshed (i.e. an area of land or water visible from a fixed vantage point) and reflects the importance placed on the human perceptions of the intrinsic beauty and visual interest of the existing landscape characteristics. Official statements of public values and goals and adopted local public policy pertaining to aesthetics or visual resources also reflect viewers' expectations regarding a visual setting and are given weight in determining levels of viewer concern.

Land uses associated with designated parks, monuments, and wilderness areas; scenic highways and corridors; recreational areas; conservation areas; and historic residential areas are generally considered to have high viewer concern. However, existing landscape character may temper viewer concern on some State and locally designated scenic highways and corridors. In general, people driving for pleasure or engaged in recreational activities tend to have high viewer concern.

Travelers on other highways and roads, including those in rural or agricultural areas, may have moderate or high viewer concern depending on viewer expectations as conditioned by regional and local landscape conditions in these areas.

Commercial uses, including business parks and hotels, typically have low-to-moderate viewer concern, although some commercial developments have specific requirements related to visual quality with respect to landscaping, building height limitations, building design, and prohibition.

Industrial uses and their occupants typically have the lowest viewer concern because employees generally work in utilitarian surroundings with relatively low visual value. However, some areas of lower visual quality and degraded visual character may contain particular views of substantially higher visual quality or interest to the public.

Within established residential areas, viewer concern is frequently associated with neighborhood character and the architectural quality of the built environment.

Visibility. Visibility is a measure of how well an object can be seen. Visibility depends on the angle or direction of views; viewing distance; extent of visual screening; and elevated topographical relationships between the object and key public viewpoints (scenic vistas). Visibility takes into consideration any and all obstructions that may be in the sightline, including landforms, trees and other vegetation, buildings, transmission poles or towers, general air quality conditions such as haze, and general weather conditions, such as fog.

Number of Viewers. Number of viewers is a measure of the number of viewers per day who would have a view of a proposed project or a visual resource and can range from low to high. The types of viewers can include residents, employees, motorists, and recreationists.

Duration of View. Duration of view is the amount of time to view a project site or a visual resource. For example, a high or extended view of a project site is one experienced over the course of two minutes or more (e.g. in a park). In contrast, a low or brief duration of view is available in a short amount of time — generally less than 10 seconds (e.g. travelling on a public road).

Viewer Exposure. Viewer exposure is a function of three elements previously listed: visibility; number of viewers; and duration of view. Viewer exposure can range from low to high. A partially obscured and brief background view for a few motorists represents low viewer exposure, and an unobstructed foreground view from a large number of residences represents a high viewer exposure.

Overall Visual Sensitivity. Visual sensitivity is derived from three elements previously listed: visual quality; viewer concern; and viewer exposure and is a concluding assessment of an existing landscape's susceptibility to an adverse visual outcome. A landscape with a high degree of visual sensitivity is able to accommodate only a lower degree of adverse visual change without resulting in a significant aesthetic impact. A landscape with a low degree of visual sensitivity is able to accommodate a higher degree of adverse visual change before exhibiting a significant aesthetic impact. Visual sensitivity can range from low to high.

5.4 Environmental Setting

This section presents information on aesthetic conditions in the study area. The current condition and quality of aesthetic resources is used as the baseline against which to compare potential impacts of the project.

5.4.1 Surrounding Area and the Westside

The Westside of East Palo Alto is a sliver of land stretching roughly between Ralmar Avenue to the north to where San Francisquito Creek crosses under US 101 to the south. The creek represents the city limit line along much of the Westside. This portion of the city is somewhat separated from the rest of East Palo Alto by US 101, with University Avenue and the US 101/University Avenue interchange at its center. The cities of Palo Alto and Menlo Park are immediately to the south and west.

The project site is located north of University Avenue. This portion of the Westside, west of US 101, is visually and aesthetically characterized by a mix of single family and multi-family residential uses, including several large apartment complexes. The Four Seasons Hotel Silicon Valley and University Circle office complex at University Avenue and Woodland Avenue Near University Avenue is the most visually dominant development in this area, consisting of the hotel, three existing multi-story office buildings, landscaping, and surface parking.

West Bayshore Road parallels US 101 and includes a large soundwall along the highway frontage. The residential neighborhoods on the west side are characterized mainly by single-family and multi-family residential buildings constructed mostly in the 1950s and 1960s, mature trees, many vehicles parked along local streets and overhead powerlines. Many streets lack defined curb and gutter. The density of the development and flat topography do not provide significant views or vista points in this area. There are limited views of the Santa Cruz Mountains from the project site, but the views are mostly obscured by the existing buildings and vegetation within the neighborhood.

5.4.2 Project Site

Aesthetically, the project site is typical of the west side of East Palo Alto, consisting of a mix of apartment complexes, with a few older single-family buildings and residences along Euclid Avenue. The existing properties contain landscaping and mature trees typical for residential uses and the age of the development. Larger (4-story) apartments are located along Manhattan Avenue, across the street from

University Circle. Similarly, the proposed water tank site at 375 Donahoe Street consists of a vacant lot and temporary "pop up" park, surrounded by residential uses and US 101.

The existing aesthetic setting of the site is portrayed in the series of photographs in Figures 5-1A and 5-1B: Existing Aesthetic Setting.

5.4.3 Scenic Vistas

Scenic vistas are typically areas of elevated expansive views toward a landscape or scenery of high visual quality. Given the density of existing development and level topography of the project site, there are no significant scenic vistas provided within the project area.

5.4.4 Key Viewpoints (KVPs)

The project site can be viewed from several publicly accessible viewpoints, identified by walking, and driving the area around the site. As shown in Figure 5-2: Location of Key Viewpoints and Figure 5-2A through 5-2D: Key Viewpoints, the KVPs were selected based on the overall potential for the project site to be visible within the public viewshed from several locations and angles.

- KVP 1 – Manhattan Avenue and O'Connor Street
- KVP 2A – Euclid Avenue and O'Connor Street
- KVP 2B – Euclid Avenue and O'Connor Street (different angle)
- KVP 3 – O'Keefe Street and Euclid Avenue
- KVP 4 – Manhattan Avenue and West Bayshore Drive
- Additional viewpoints (from the project application) are shown in Figure 5-3: Existing Neighborhood Context.

KVP Characterizations

All four KVPs have the same basic aesthetic conditions and characterizations based on the sensitivity criteria provided above. These KVPs were selected to characterize the typical visual condition of the project site and within the neighborhood as seen to both motorized and non-motorized travelers using the public roadway.

Visual Quality: *Low*. Views from these viewpoints toward the project site show some of the larger apartment buildings in the neighborhood and typical street views. There are also a few older properties that have been modified and have no cohesive historic integrity. There are no significant or remarkable scenic resources or views from this location, although there are a few larger, mature trees lining local streets that add visual value and interest. Visual quality is compromised by overhead utilities and many cars parked along the streets.

Viewer Concern: *Low to Moderate*. While existing visual quality of local views may be low, viewer concern from local residents may be moderate to some in terms of the future of urban design.

Viewer Exposure: *Low*. Viewpoints from these locations are typically experienced only by local residents within the neighborhood, and to a lesser degree to through traffic. There is not a high level of public exposure to these viewpoints.

Source: Kimley-Horn, 2020

Figure 5-1A: Existing Aesthetic Setting

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Source: Kimley-Horn, 2020; Google Earth, 2020

Figure 5-1B: Existing Aesthetic Setting

Woodland Park Euclid Improvements
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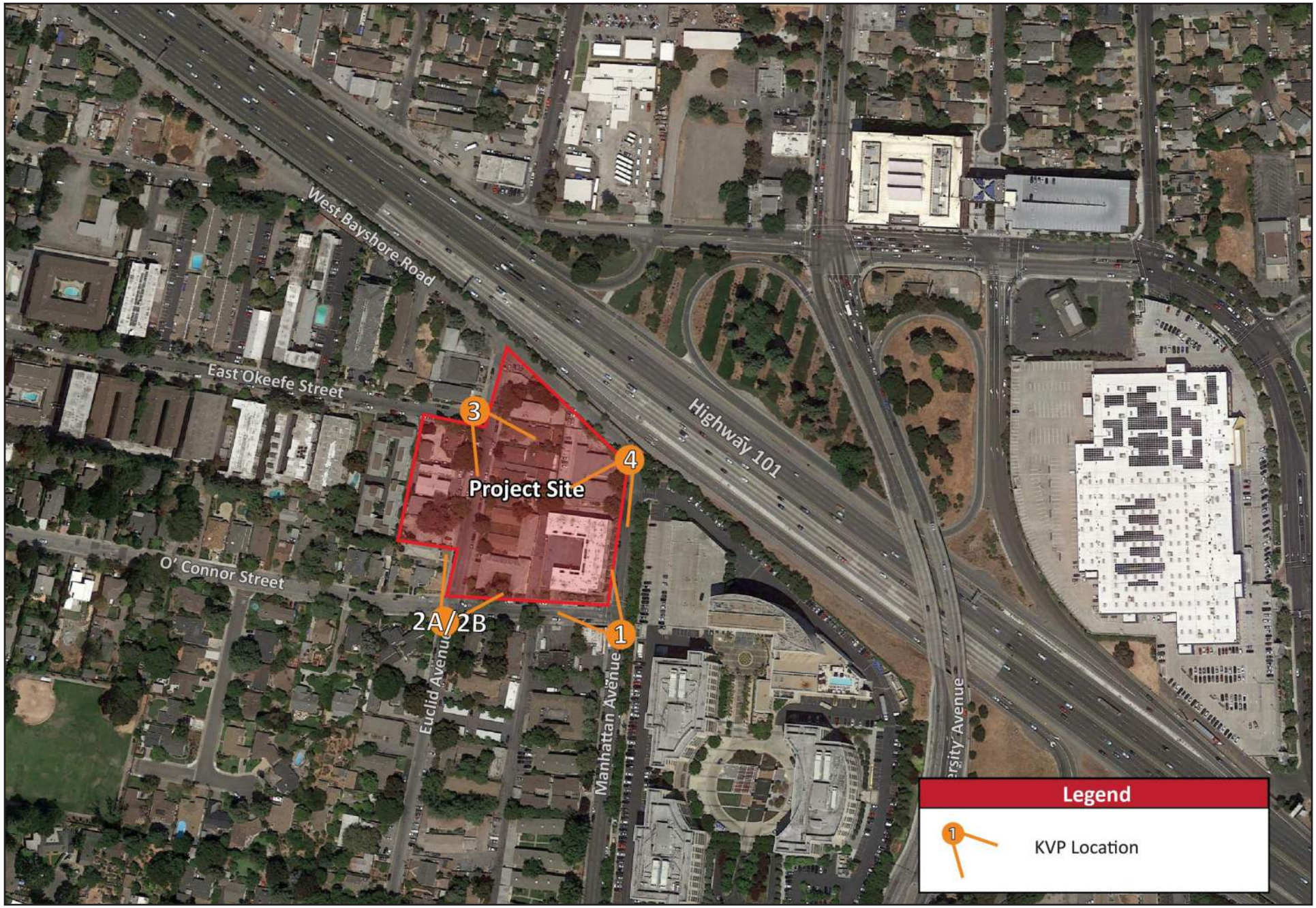

Source: Kimley-Horn, 2020

Figure 5-2: Location of Key Viewpoints

Woodland Park Euclid Improvements
Draft EIR

Not to scale

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Source: Kimley-Horn, 2020

Figure 5-2A: Manhattan Avenue and O'Connor Street (KVP 1)

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Draft EIR

Not to scale

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KVP 2A

KVP 2B

Source: Kimley-Horn, 2020

Figure 5-2B: Euclid Avenue and O'Connor Street (KVP 2A and 2B)

Woodland Park Euclid Improvements
Draft EIR

Not to scale

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Source: Kimley-Horn, 2020

Figure 5-2C: O'Keefe Street and Euclid Avenue (KVP 3)

Woodland Park Euclid Improvements
Draft EIR

Not to scale

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Source: Kimley-Horn, 2020

Figure 5-2D: Manhattan Avenue and West Bayshore Drive (KVP 4)

Woodland Park Euclid Improvements
Draft EIR

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1 - Intersection of West Bayshore Road and Euclid Avenue, Looking East

2 - West Bayshore Road, Looking East

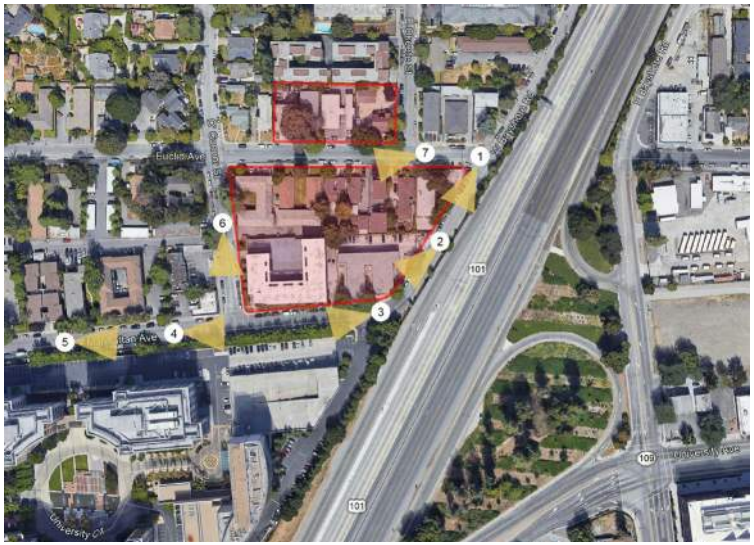
3 - Intersection of West Bayshore Road and Manhattan Avenue, Looking South

4 - Intersection of Manhattan Avenue and O'Connor Street, Looking North

5 - Manhattan Avenue, Looking North

6 - O'Connor Street, Looking East

7 - Euclid Avenue, Looking South



Source: David Baker Architects, 2019

Figure 5-3: Existing Neighborhood Context

Woodland Park Euclid Improvements
Draft EIR

Not to scale

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Overall Visual Sensitivity: *Low*. With aging commercial uses at one corner, medium to high density apartment buildings with limited architectural character dominating the site, overhead utilities, sound walls, lack of distant views or unique visual resources, and a typical pattern of urban landscaping and tree cover, overall visual sensitivity or susceptibility to impact from this location can be considered low.

5.5 Applicable Regulations, Plans, and Standards

5.5.1 Federal

None applicable.

5.5.2 State

Scenic Highway Program

In 1963, the California Legislature established the State's Scenic Highway Program, which is intended to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq.

The State Scenic Highways program, established by the Streets and Highways Code, is administered by the California Department of Transportation (Caltrans). The State Scenic Highway System includes highways that are either eligible for designation as scenic highways or have been designated as such.

For Caltrans to grant an eligible route official status as a California State Scenic Highway, the local jurisdiction must implement a Corridor Protection Program by either adopting ordinances, zoning, and/or planning policies to preserve the scenic quality of the corridor, or documenting that such regulations already exist in various portions of local codes. Policies to prevent visual degradation of these view corridors might include restriction of dense and continuous development, reflective surfaces, ridgeline development, extensive cut and fill grading, disturbed hillsides and landscape, exposed earth, and non-native vegetation (Caltrans, 2014).

Within San Mateo County, Interstate 280, State Route (SR) 35, and SR1 are State Scenic Highways. There are no designated State Scenic Highways in the City of East Palo Alto.

Title 24 Outdoor Lighting Zones

Title 24 of the California Building Standards Code includes outdoor lighting requirements for development projects. The requirements are intended to improve the quality of outdoor lighting and reduce the impact of light pollution and glare. The standard regulates lighting characteristics, such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone. The classification is based on population figures in the 2010 Census and the areas can be designated as LZ1 (dark), LZ2 (low), LZ3 (medium), or LZ4 (high). The project area is defined as an urban area and is, therefore, designated as LZ3 per the CEC classification standards.

5.5.3 Local

Vista 2035 East Palo Alto General Plan

While not an officially designated scenic view or resource, the General Plan recognizes that the entry and exits points in East Palo Alto are important character-defining gateway features for the City. The project site sits along University Avenue, which is a gateway from US 101 into the City to the east and west. Further, the following policies from the City's General Plan have been adopted for the purpose of avoiding or mitigating aesthetic impacts resulting from planned development within the City. The following are applicable to the project.

Land Use and Urban Design

- Policy 8.1: Gateways. Enhance the image of the community by creating high quality, artistic structural elements that provide city-wide consistency, substantially improving the appearance of entrances to the City along University Avenue, Bay Road, Willow Road, and Newbridge Street.
- Policy 8.2: High quality construction and architecture. Require high-quality and long-lasting building materials on all new development projects in the City. Encourage innovative and quality architecture for new public and private projects.
- Policy 9.1: Pedestrian focus. Design the streetscape of high-volume corridors, including University Avenue, East Bayshore Road, Bay Road, and Pulgas Avenue, to balance regional traffic flow with pedestrian movement and safety and the unique physical environment of the area.
- Policy 9.2: Parking frontages. Continue to implement parking strategies and standards that ensure parking areas do not dominate street frontages and are screened from public views whenever possible.
- Policy 9.4: Lighting. Strive for all new gateway features in commercial areas to be pedestrian-oriented, attractively designed, compatible in design with other street furniture, and to provide adequate visibility and security.
- Policy 9.5: Public gathering spaces. Improve existing, and create new, gathering spaces throughout the City including in commercial/retail and office developments to provide beautiful, comfortable, and inviting public and pedestrian spaces; encouraging walking and public gatherings.
- Policy 9.10: Streetscape. Enhance the pedestrian experience through streetscape improvements that could include new street lighting, tree planting, undergrounding of utilities, and easement dedications to increase the size of the sidewalks and pedestrian amenities.
- Policy 10.5: Gateway. Pursue major office development projects at the intersection of Donohoe Street and University Avenue. Require any new development at the southern end of the corridor at the intersection with Donohoe Street to use building design and architecture to create a prominent gateway to East Palo Alto.
- Policy 10.10: Architecture. Encourage a variety of architectural styles, building forms and building heights along University Avenue.
- Policy 14.10: Lighting. Improve street lighting for public safety and prioritize areas near parks and schools for lighting improvements.

Westside Area Plan

The Westside Area Plan is a separate chapter of the Vision 2035 General Plan, providing more detailed goals and policies for the Westside area of East Palo Alto. One of the guiding principles of this plan relative to aesthetics is to beautify the Westside, as noted below:

> ***Beautify the Westside.*** *The physical environment of the Westside should be enhanced to become more attractive. This includes adding street trees, renovating streets to add curbs and gutters, improving the visual character of buildings, requiring high-quality design for renovation and new buildings, and adding parks and open space, including recreation opportunities along San Francisquito Creek.*

The plans, goals and policies are designed to ensure that future and existing development on the Westside generates a more aesthetically pleasing and pedestrian-oriented environment. In addition to building quality and character, specific policies also call for the "greening" of the area through streetscape improvements, connections to parks and green spaces, and integration of University Circle into the surrounding neighborhood.

Within this existing urban setting, aesthetics are addressed more in terms of quality and innovative design of the built environment, rather than preservation of views of the natural environment.

East Palo Alto Municipal Code

East Palo Alto's Municipal Code implements the General Plan by providing detailed requirements for the allowable land uses and development standards on each parcel. Chapter 18.22 Site Planning and General Development Standards of the Municipal Code imposes requirements related to building height, setbacks from property lines and allowed uses for each zoning district. The Municipal Code also contains Design Review guidelines (Chapter 18.86 Site Plan and Design Review), Architectural Supervision standards (Chapter 18.14.040 Site Design and Architectural Standards), performance standards related to avoiding light/glare from buildings (e.g. Chapter 18.34. 110 Outdoor Light and Glare) and signage (e.g. Chapter 18.32 Signs) into residential areas.

5.6 Environmental Impacts and Mitigation Measures

5.6.1 Significance Criteria

The following significance criteria for aesthetics were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of potential impacts related to this project.

An impact of the project would be considered significant and would require mitigation if it would meet one or more of the following criteria.

- Cause a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings with a State scenic highway.

- In rural areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points.)
- In an urbanized area, conflict with applicable zoning and other regulations governing scenic quality.
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

A significant aesthetic impact could occur if the proposed project's incremental aesthetic impact would be cumulatively considerable.

Impact Assessment Methodology

To determine potential impacts, the impact significance criteria identified above were applied to the construction and operation of the proposed project. Impacts are identified as being either short-term or long-term in nature.

An adverse aesthetic (visual) impact may occur within public view when: (1) an action perceptibly changes existing features of the physical environment so that they no longer appear to be characteristic of the subject locality or region; (2) an action introduces new features to the physical environment that are perceptibly uncharacteristic of the region and/or locale; or (3) aesthetic features of the landscape become less visible (i.e. partially or totally blocked from view) or are removed. Changes that seem uncharacteristic are those that appear out of place, discordant, or distracting. The degree of the aesthetic impact depends upon how noticeable the adverse change may be, and conclusions can be subjective. The noticeability of an adverse aesthetic impact is a function of project features, context, and viewing conditions (e.g. angle of view, distance, primary viewing directions, and duration of view).

Views and viewpoints were assessed in the field by walking and driving all accessible areas in the vicinity of the project to search for and photograph prominent public vantage points. These views were compared to the project renderings to estimate aesthetic changes relative to the thresholds above.

5.6.2 Summary of No and/or Beneficial Impacts

State-Designated Scenic Highway

The project site is not located within the viewshed of a state-designated scenic highway, and therefore would not impact or substantially alter scenic resources related to a scenic highway. There are no state-designated scenic highways in East Palo Alto.

Scenic Vistas

Due to the level topography of the site, surrounding structures and vegetation, the proximity of US 101 and soundwalls to the north, and the large University Circle complex to the south and east, introduction of the project would have no impact on scenic vistas as no scenic vistas currently exist in the neighborhood. There are no high quality or expansive public views within the immediate neighborhood to the Santa Cruz Mountains or other scenic features. While the new structures may alter the view and skyline as seen from buildings within University Circle, these are not public viewpoints or public vistas.

5.6.3 Impacts of the Proposed Project

Impact AES-1: **The project would alter the visual character or quality of the site and its neighborhood surroundings as seen from public viewpoints. Based on CEQA thresholds, this is a less than significant impact.**

Construction and Operation

This CEQA threshold specifically pertains to projects in rural settings, where the overall nature of the visual character of an area may be fundamentally altered by the introduction of new development to an undeveloped area, or where the rural, aesthetic quality of public viewpoints would be clearly compromised.

Nonetheless, it is common for a CEQA lead agency to consider more urban projects under this standard. Using the general guidance under the Methodology discussion above, the project will change existing features of the physical environment by replacing existing buildings and landscaping with higher density development. In addition, the project would introduce a 1.5-million-gallon water tank at 375 Donahoe Street, immediately adjacent to residential uses (owned by the applicant) and across the street from other residences. The tank has a diameter of 80 feet and would be approximately 50 feet tall.

Replacing urban uses with other urban uses in East Palo Alto, however, is characteristic of the City and the region. The project will not block or remove significant aesthetic features of the landscape, and while the resulting changes would clearly be noticeable and different from existing conditions, such changes are not necessarily discordant or distracting in this urban setting. The project's landscape plan will also incorporate and preserve 40 mature trees while providing new replacement trees and formal landscaping around and within the project boundaries. For these reasons and within this context, changes to the visual character of the area as seen from public viewpoints is **less than significant**.

Impact AES-2: **The project could potentially conflict with existing zoning for this urban area that governs scenic quality. Based on CEQA thresholds, this is a significant unavoidable impact.**

Construction

Construction of the project would involve the removal of 22 existing protected trees and vegetation, demolition of existing structures, grading, limited excavation, and construction activity in the immediate vicinity for approximately two years. While temporary, the visual character and quality of the site in the immediate area could be substantially degraded while construction is underway, compared to existing conditions.

MM AES-2.1 Construction Screening

To minimize and soften the visual effect as seen from visitors and nearby residents, the project proponent shall incorporate construction fencing or screening around the perimeter of the site. The screening material shall be of sufficient height to mask ground-level activities within and be designed with graphics, murals, historic references, or other design features to blend as much as possible with the neighborhood

surroundings while communicating the future uses at the site. Screening shall remain in place during demolition of existing structures, site preparation and new building construction. Screening shall not be necessary during the final stages of construction when architectural coatings, detailing and landscaping are applied. The plan for screening concept and design shall be submitted for approval to the City of East Palo Alto prior to issuance of any building and grading permits.

MM AES-2.2 Water Tank Screening

During construction, the applicant shall provide construction screening of the water tank site to soften visual effects of construction. In the final phase of tank construction, the applicant shall landscape the perimeter of the water tank site at 375 Donohoe with a combination of fencing and vegetation to soften and screen the appearance of the water tank and related improvements. Plant selection shall include native, taller species or trees to provide a visually appealing screen as viewed from the roadway and surrounding land uses. Landscaping and screening shall not conflict with water tank access or operations. Landscaping plans shall be submitted to the City for review and approval with final improvement plans.

Implementation of MM AES-2.1 would reduce construction impacts to a less than significant level by effectively screening these temporary effects. MM AES-2.2 would mitigate visual changes from the water tank by providing an effective visual barrier related to both construction and long-term operations.

Operation

Visual character is the overall perceptible aesthetic quality of an area created by its unique combination of visual features such as form, bulk, scale, texture, color and viewing range. The key factors in determining the potential for an adverse effect on visual character are (1) substantial changes to the existing physical features of the landscape that are characteristic of the region or locale; or (2) the introduction of new features to the physical landscape that are perceptibly uncharacteristic of the region or locale that become visually dominant from common view points.

As described in the Environmental Setting, the visual quality of the site is dominated and compromised by the existing residential buildings and other man-made features, resulting in generally low visual quality of the site. The relative change to the visual character of the site and its surroundings once the project is constructed is best illustrated from the key viewpoints (KVPs) identified previously.

From all viewpoints, the visual appearance of the project site would be significantly changed. Taller residential structures up to 13 stories would be introduced closer to the freeway, with the other structures ranging in height from six to nine stories. The 1.5 MG water tank would also alter the visual appearance by introducing a visually-prominent public facility onto residentially zoned parcels.

Design Standards, Size, Scale and Mass

"Size", "scale" and "mass" are terms often used when describing how a building or project "fits" in relationship to its surroundings or neighboring properties. For the Woodland Park Euclid Improvements, project relative scale is best represented in the elevations (profiles) and schematic renderings (see

Figures 3-6 and 3-7: Building Elevations and Figures 5-4A and 5-4B: Visual Representations). Whether or not a project or structure is too large (or too small for that matter) is often a matter of opinion, as CEQA thresholds do not specifically speak to size as a significant impact. These issues are addressed by CEQA in terms of "visual character" from public viewpoints, and also if the project is consistent with applicable zoning and other regulations governing scenic quality.

The project would typically be subject to Chapter 18.22 of the City Municipal Code, which identifies the general development standards (e.g. building height, setbacks from property lines) for all zones. However, the project is proposing a new zoning overlay specific to the project. The project would remain subject to Chapter 18.28, which specifies the City's requirements for landscaping and tree variety and size.

Per Chapter 18.10 of the City Municipal Code, the existing R-HD-5 and R-UHD zoning at the site allows for a maximum of seven stories or 75 feet, whichever is greater. Because the project is proposing a General Plan Amendment and zoning amendment to create the Neighborhood Center Residential Overlay (NCO), existing zoning and development standards would not apply. The NCO could result in a significant intensification of the site and building heights up to 130 feet. As a unique overlay, the project would require consistency with other governing land use documents, such as the Westside Area Plan, and analyzed on its own merits in terms of environmental and visual impact. Consistent with the Westside Area Plan, this level of intensification must be found to provide benefits to the neighborhood and City, involve high quality urban design and architecture, and design elements to beautify and "green" the community.

Incorporation of these strategies and design elements into the project could result in a visually and aesthetically pleasing improvement to the Westside, depending on one's point of view. The overall intensity and height of the project, however, is significantly different than the existing development pattern and existing zoning and development standards for the area. The project would essentially triple the existing allowable density, and nearly double allowable building heights. The basis for this significant and unavoidable effects is the level of deviation from existing zoning standards, and the comparative difference between the existing and proposed urban form. While the project may very well result in a high-quality development with clear aesthetic improvements consistent with the Westside Area Plan beautification goals, it would nonetheless result in amended General Plan and zoning designations that represents a significant deviation from existing standards and would allow a development that would be taller and more dense (compact) than the existing surrounding structures.

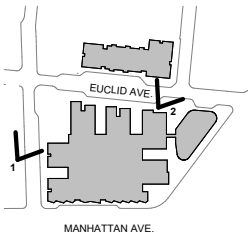
Shade and Shadow

To determine potential effects of additional shadow cast by the project, a shadow analysis has been conducted to determine if surrounding land uses could be affected by the shadow created by the new structure during the day. The results of the study are shown in Figures 5-5A and 5-5B: Shade and Shadow Studies. As these images show, additional shadow cast by the project is most pronounced at sunrise and sunset, with the location shifting during the year. In the summer months (represented by the June 21 images) adjacent buildings directly to the west of Euclid Avenue would experience more morning shade. In the PM hours, the shade shifts toward the freeway.

In the winter months (represented by the December 21 images) morning shadow is more pronounced with the rising sun lower on the horizon. Adjacent buildings directly west of Euclid Street, as well as the

1- VIEW OF PARK FROM O'CONNOR ST.

2- VIEW OF EUCLID LOOKING TOWARDS O'KEEFE ST.



KEY PLAN

Source: David Baker Architects, 2021

Figure 5-4A: Visual Representations

Woodland Park Euclid Improvements
Draft EIR

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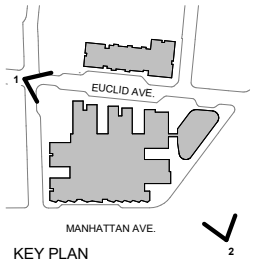
1- VIEW DOWN EUCLID AVE. LOOKING NORTH

2- VIEW FROM US 101/ UNIVERSITY AVE OVERPASS (FOUR SEASONS HOTEL IN FOREGROUND)



KEY PLAN

Source: David Baker Architects, 2021

Figure 5-4B: Visual Representations

Woodland Park Euclid Improvements
Draft EIR

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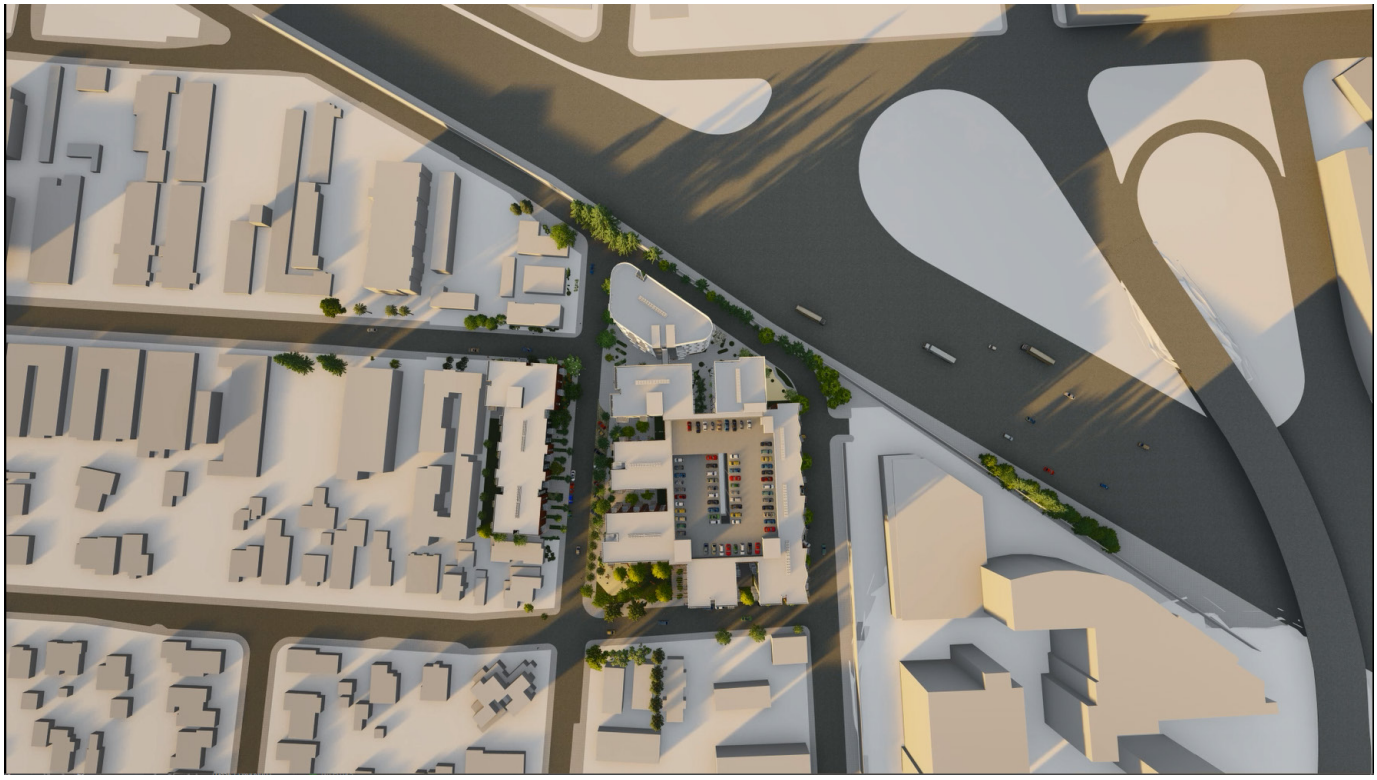
Winter (December 21) - 8:30 AM



Winter (December 21) - 3:50 PM

Source: David Baker Architects, 2020

Figure 5-5A: Shade and Shadow Studies (Winter)

Woodland Park Euclid Improvements
Draft EIR

Not to scale

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Summer (June 21) - 8:30 AM

Summer (June 21) - 7:30 PM

Source: David Baker Architects, 2020

Figure 5-5B: Shade and Shadow Studies (Summer)

Woodland Park Euclid Improvements
Draft EIR

Not to scale

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group of structures along Euclid between West Bayshore and O'Connor, would experience longer periods of morning shade compared to existing conditions. In the late afternoon/evening, the shadow pattern shifts toward the freeway and University Circle.

While shadow and shade are not itself a significance threshold under CEQA, it is a factor related to overall visual character or quality, particularly in urban settings with residential land uses. The project as proposed will result in longer periods and more pronounced shadow on adjacent residential uses in the immediate area along Euclid Avenue.

Because this project is related to the change in zoning that would allow intensification, this is considered a **significant unavoidable** secondary effect of the project that cannot be mitigated by feasible measures other than changes or alternatives to the project. Chapter 19, Alternatives, evaluates other development scenarios intended to address aesthetic impacts.

Impact AES-3: **The project would introduce new sources of light and glare to the project site and project area. This is a less than significant impact with mitigation incorporated**.

Construction

Construction activity associated with the project would not result in unusual or permanent light sources that would significantly affect day or nighttime views in the area. During darker winter months some flood lighting or work lighting may be necessary near the beginning or end of the workday but would not be considered significant or obtrusive. All lighting required for construction would be temporary and subject to standard construction conditions.

Operations

Outside lighting at the project would be limited to pedestrian level bollards, pole lighting and custom lighting to allow for safety, security and way finding. All lighting must be consistent with performance standards identified in Chapter 18.34.110 Outdoor Light and Glare and Chapter 18.22.050 Outdoor Lighting of the City's development code for the uses proposed. Lighting sources consistent with existing codes would be less than significant and obtrusive to the existing neighborhood.

With respect to glare, however, the project could produce new sources of glare from windows and reflective surfaces that are more intense that current conditions. Given the project height and location near US 101 and that it is embedded within an existing residential neighborhood, new sources of glint or glare from windows and reflective surfaces could affect neighboring properties or motorists at certain times of the day and year if efforts are not taken to reduce these effects. The potential for glare at these locations is not anticipated to be particularly invasive or hazardous but may present as an unwanted nuisance to these nearby uses and worthy of disclosure in this EIR.

MM AES-3.1 Glare Reduction

As part of final improvement plans, the project shall incorporate anti-reflective (AR) glass products and surfaces selected specifically to minimize reflective glare. Such materials can vary but typically consist of matte or patterned finishes that serve to both reduce reflective glare and reduce bird strike.

5.6.4 Cumulative Impact Analysis

The geographic context for the analysis of cumulative aesthetic impacts includes the project site, immediate Westside neighborhoods, and the larger fabric of East Palo Alto and Menlo Park where proposed projects would change the visual appearance of the area over time (see Chapter 4, Cumulative Projects List).

Impact AES-4: **The project would not significantly contribute to cumulatively considerable visual or aesthetic impacts. This is a less than significant impact of the project.**

The Westside of East Palo Alto and specifically the area north of University Avenue where the project is located, does not include reasonably foreseeable projects at this time other than the proposed office expansion of University Circle. That project, together with Woodland Park Euclid Improvements, are nearby but visually independent of each other considering the physical location of the proposed development. The combined projects could result in related roadway and circulation improvements at the Woodland Avenue/University Avenue intersection; however, this area already contains significant roadway infrastructure and any modifications would not be considered visually adverse.

While the broader list of cumulative projects could result in changes in the appearance and character of the built environment over time as the plan is implemented, such changes are consistent with the East Palo Alto General Plan as analyzed in the City's General Plan EIR. These cumulative projects and their resulting visual changes would combine with the Euclid Improvements project over time; however, based on City policies to guide that development, the overall cumulative effect is expected to be beneficial in terms of urban design and beautification. Cumulative effects are therefore less than significant.

5.7 References

City of East Palo Alto. 2017. *Vista 2035 East Palo Alto General Plan*.

City of East Palo Alto. 2020. Municipal Code.

David Baker Architects. 2020. *Shade and Shadow Studies for the Woodland Park Euclid Improvement Project*.

Woodland Park Communities. 2019. Project application materials and plan sets (September 2019 and November 2020).

6 Air Quality

6.1 Introduction

This section describes effects on air quality that would be caused by implementation of the proposed project. Information used to prepare this section came from the following resources:

- California Emissions Estimator Model (CalEEMod) projections (see **Appendix B**)
- California Air Resource Board (CARB)
- State Office of Environmental Health Hazard Assessment (OEHHA)
- California Environmental Quality Act (CEQA) Air Quality Guidelines
- Bar Area Air Quality Management District (BAAQMD), CEQA Air Quality Guidelines

6.2 Scoping Issues Addressed

During the NOP public comment and scoping period for the proposed project, several comments were received regarding air quality. Comments received were generally concerned with construction (and demolition) particulates and air quality impacts, particularly due to trucks and construction equipment and operational air quality impacts due to increased vehicle trips.

6.3 Environmental Setting

6.3.1 Climate and Topography

The California Air Resources Board (CARB) divides the State into 15 air basins that share similar meteorological and topographical features. The project is located within the San Francisco Bay Area Air Basin (Basin). This Basin comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of Sonoma County, and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below. The BAAQMD is responsible for local control and monitoring of criteria air pollutants throughout the Basin.

Climate, or the average weather condition, affects air quality in several ways. Wind patterns can remove or add air pollutants emitted by stationary or mobile sources. Inversion, a condition where warm air traps cooler air underneath it, can hold pollutants near the ground by limiting upward mixing (dilution). Topography also affects the local climate, as valleys often trap emissions by limiting lateral dispersal.

The inversions typical of winter, called radiation inversions, are formed as heat quickly radiates from the earth's surface after sunset, causing the air in contact with it to rapidly cool. Radiation inversions are strongest on clear, low-wind, cold winter nights, allowing the build-up of such pollutants as carbon monoxide and particulate matter. When wind speeds are low, there is little mechanical turbulence to mix the air, resulting in a layer of warm air over a layer of cooler air next to the ground. During radiation inversions downwind transport is slow, the mixing depths are shallow, and turbulence is minimal, all factors which contribute to ozone formation.

The frequency of hot, sunny days during the summer months in the Basin is another important factor that affects air pollution potential. It is at the higher temperatures that ozone is formed. In the presence of ultraviolet sunlight and warm temperatures, reactive organic gases and oxides of nitrogen react to form secondary photochemical pollutants, including ozone.

The climate is dominated by the location and strength of a semi-permanent, subtropical high-pressure cell. In the summer, the Pacific cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the coast which results in condensation and the presence of fog and stratus clouds along the coast. In the winter, the high-pressure cell weakens and shifts southward, resulting in increased wind flow offshore, the absence of upwelling, and the occurrence of storms.

The Basin is characterized by moderately wet winters (November through March) and dry summers. The rainfall in the mountains reaches 40 inches while the valley sees less than 16 inches. Generally, coastal temperatures can be 35 degrees Fahrenheit cooler than temperatures 15 to 20 miles inland. At night, this contrast usually decreases to less than 10 degrees Fahrenheit. In the winter, the relationship of minimum and maximum temperatures is reversed.

The project site is located in the City of East Palo Alto in southeastern portion of San Mateo County, California. The City has a generally mild climate, with average temperatures in the high 70's Fahrenheit in the summer and high 40's Fahrenheit in the winter. The annual rainfall is approximately 17 inches in the City, primarily between November and April. The regulatory section below discusses the various buffer zones around sources of air pollution sufficient to avoid adverse health and nuisance impacts on nearby receptors.

6.3.2 Air Pollutants of Primary Concern

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state laws. These regulated air pollutants are known as "criteria air pollutants" and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_X), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead are primary air pollutants. Of these, CO, NO_X, SO_2, PM_{10}, and $PM_{2.5}$ are criteria pollutants. ROG and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. For example, the criteria pollutant ozone (O_3) is formed by a chemical reaction between ROG and NO_X in the presence of sunlight. O_3 and nitrogen dioxide (NO_2) are the principal secondary pollutants. Sources and health effects commonly associated with criteria pollutants are summarized in Table 6-1: Air Contaminants and Associated Public Health Concerns.

Ozone, or smog, is not emitted directly into the environment, but is formed in the atmosphere by complex chemical reactions between ROG and NO_X in the presence of sunlight. Ozone formation is greatest on warm, windless, sunny days. The main sources of NO_X and ROG, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) the evaporation of solvents, paints, and fuels, and biogenic sources. Automobiles are the single largest source of ozone precursors in the Basin. Tailpipe emissions of ROG are highest during cold starts, hard acceleration, stop-and-go conditions, and slow speeds. They decline as speeds increase up to about 50 miles per hour (mph), then

increase again at high speeds and high engine loads. ROG emissions associated with evaporation of unburned fuel depend on vehicle and ambient temperature cycles. Nitrogen oxide emissions exhibit a different curve; emissions decrease as the vehicle approaches 30 mph and then begin to increase with increasing speeds.

Ozone levels usually build up during the day and peak in the afternoon hours. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. Ozone can also damage plants and trees, and materials such as rubber and fabrics.

Table 6-1: Air Contaminants and Associated Public Health Concerns

Pollutant	Major Man-Made Sources	Human Health Effects
Particulate Matter (PM_{10} and $PM_{2.5}$)	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; asthma; chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases/volatile organic compounds (ROG or VOC)[1] and nitrogen oxides (NO_X) in the presence of sunlight. Motor vehicle exhaust industrial emissions, gasoline storage and transport, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
Sulfur Dioxide (SO_2)	A colorless gas formed when fuel containing sulfur is burned and when gasoline is extracted from oil. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Lead (Pb)	Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Due to the phase out of leaded gasoline, metals processing is the major source of lead emissions to the air today. The highest levels of lead in air	Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses

Pollutant	Major Man-Made Sources	Human Health Effects
	are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.	and young children, resulting in learning deficits and lowered IQ.

Source: California Air Pollution Control Officers Association (CAPCOA), *Health Effects*, capcoa.org/health-effects/, accessed September 22, 2020.
Notes:
[1] Volatile Organic Compounds (VOCs or Reactive Organic Gases [ROG]) are hydrocarbons/organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including ROGs and VOCs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).

Toxic Air Contaminants

Toxic air contaminants (TACs) are airborne substances that can cause short-term (acute) or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes more than 200 compounds, including particulate emissions from diesel-fueled engines.

CARB identified diesel particulate matter (DPM) as a toxic air contaminant. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine. Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

6.3.3 Ambient Air Quality

CARB monitors ambient air quality at approximately 250 air monitoring stations across the state. Air quality monitoring stations usually measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Existing levels of ambient air quality, historical trends, and projections near the project site are documented by measurements made by the Bay Area Air Quality Management District (BAAAQMD)'s air pollution regulatory agency that maintains air quality monitoring stations, which process ambient air quality measurements.

Ozone (O_3) and particulate matter (PM_{10} and $PM_{2.5}$) are pollutants of concern in the BAAQMD. The closest air monitoring station to the project site that monitors ambient concentrations of these pollutants is the Redwood City Monitoring Station (located approximately 3.5 miles west of the project site). This monitoring station provides air quality data that would be representative of the ambient air quality at the project site. Local air quality data from 2016 to 2018 is provided in Table 6-2: Ambient Air

Quality Data. Table 6-2: Ambient Air Quality Data, lists the monitored maximum concentrations and number of exceedances of federal or state air quality standards for each year. Particulate matter (PM_{10} and $PM_{2.5}$) were both exceeded in 2018 at one of the closest monitoring stations. Table 6-4: State and Federal Ambient Air Quality Standards below shows the attainment and nonattainment status for various pollutants.

In general, the Bay Area experiences low concentrations of most pollutants when compared to federal standards, except for O_3 (ozone) and particulate matter (PM), for which standards are exceeded periodically. With respect to federal standards, the Bay Area's attainment status for 8-hour ozone is classified as "marginal nonattainment" and "nonattainment" for $PM_{2.5.}$ The region is also considered to be in nonattainment with the California Ambient Air Quality Standards (CAAQS) for PM_{10} and $PM_{2.5}$. Area sources generate the majority of these airborne particulate emissions. The Basin is considered in attainment or unclassified with respect to the CO, NO_2 and SO_2 National Ambient Air Quality Standards (NAAQS) and CAAQS.

Table 6-2: Ambient Air Quality Data

Pollutant	Redwood City[1]		
	2016	2017	2018
Ozone (O_3)			
1-hour Maximum Concentration (ppm)	0.075	0.115	0.067
8-hour Maximum Concentration (ppm)	0.060	0.86	0.049
Number of Days Standard Exceeded			
CAAQS 1-hour (>0.09 ppm)	0	2	0
NAAQS 8-hour (>0.070 ppm)	0	2	0
Carbon Monoxide (CO)			
1-hour Maximum Concentration (ppm)	N/A	N/A	N/A
Number of Days Standard Exceeded			
NAAQS 1-hour (>35 ppm)	N/A	N/A	N/A
CAAQS 1 hour (>20 ppm)	N/A	N/A	N/A
Nitrogen Dioxide (NO_2)			
1-hour Maximum Concentration (ppm)	45.7	67.4	77.3
Number of Days Standard Exceeded			
NAAQS 1-hour (>100 ppm)	0	0	0
CAAQS 1-hour (>0.18 ppm)	0	0	0
Particulate Matter Less Than 2.5 Microns ($PM_{2.5}$)			
National 24-hour Maximum Concentration	19.5	60.8	120.9
State 24-hour Maximum Concentration	19.5	60.8	120.9
Number of Days Standard Exceeded			
NAAQS 24-hour (>150 µg/m^3)	0	6	13
CAAQS 24-hour (>50 µg/m^3)	7	9	11
Particulate Matter Less Than 10 Microns (PM_{10})			
National 24-hour Maximum Concentration	N/A	N/A	N/A
State 24-hour Maximum Concentration	N/A	N/A	N/A
Number of Days Standard Exceeded			
NAAQS 24-hour (>150 µg/m^3)	N/A	N/A	N/A
CAAQS 24-hour (>50 µg/m^3)	N/A	N/A	N/A

Source: All pollutant measurements are from the CARB Aerometric Data Analysis and Management system database (arb.ca.gov/adam).
NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; ppm = parts per million;
µg/m^3 = micrograms per cubic meter; N/A = not measured

[1] Measurements taken at the Redwood City Monitoring Station located at 897 Barron Ave., Redwood City, California 94063 (CARB# 41541).

6.3.4 Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive receptors in proximity to localized sources of toxics are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

The project site is located in an urban area at the edge of Highway 101 in the City of East Palo Alto. The surrounding land uses are predominantly residential, guest lodging to the east, some commercial to the south and southeast, and mostly commercial on the other side of the freeway. The northern boundary of the site is West Bayshore Road. Table 6-3: Sensitive Receptors lists the distances and locations of nearby sensitive receptors, which primarily include single- and multi- family residences.

Table 6-3: Sensitive Receptors

Receptor Description	Distance and Direction from the Project Site
Single Family Residential Uses	10 feet south
Multi-family Residential Uses	10 feet west
Multiple Family Residential Uses	25 feet east
Single-Family Residential Uses	50 feet southeast
Single-Family Residential Uses	100 feet southeast
Multi-family Residential Uses	140 feet south
Four Season Hotel	200 feet east
Single-Family Residential Uses	200 feet southeast
Single Family Residential Uses	300 feet southeast
Multi-family Residential Uses	190 feet southwest
German American International School	700 feet southwest
St. Mark's Missionary Baptist Church	800 feet east

6.4 Regulatory Setting

6.4.1 Federal and State

Federal Clean Air Act

Air quality is federally protected by the Federal Clean Air Act (FCAA) and its amendments. Under the FCAA, the EPA developed the primary and secondary National Ambient Air Quality Standards (NAAQS) for the criteria air pollutants including ozone, NO_2, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead. Depending on whether the standards are met or exceeded, the local air basin is classified as in "attainment" or "nonattainment." Some areas are unclassified, which means no monitoring data are available. Unclassified areas are considered to be in attainment. Proposed projects in or near nonattainment areas could be subject to more stringent air-permitting requirements. The FCAA requires that each state prepare a State Implementation Plan (SIP) to demonstrate how it will attain the NAAQS within the federally imposed deadlines.

The U.S. Environmental Protection Agency (EPA) has designated enforcement of air pollution control regulations to the individual states. Applicable federal standards are summarized in Table 6-4: State of California.

California Air Resources Board

CARB administers California's air quality policy. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 6-4: State and Federal Ambient Air Quality Standards, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. In general, the Bay Area experiences low concentrations of most pollutants when compared to federal standards, except for O_3 and PM, for which standards are exceeded periodically. With respect to federal standards, the Bay Area's attainment status for 8-hour ozone is classified as "marginal nonattainment" and "nonattainment" for $PM_{2.5}$. The region is also considered to be in nonattainment with the CAAQS for PM_{10} and $PM_{2.5}$. Area sources generate the majority of these airborne particulate emissions. The Basin is considered in attainment or unclassified with respect to the CO, NO_2 and SO_2 NAAQS and CAAQS.

The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMPs also serve as the basis for the preparation of the SIP for meeting federal clean air standards for the State of California. Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events such as wildfires, volcanoes, etc. are not considered violations of a State standard, and are not used as a basis for designating areas as nonattainment. The applicable State standards are summarized in Table 6-4: State and Federal Ambient Air Quality Standards.

Table 6-4: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	State Standards[1]		Federal Standards[2]	
		Concentration	Attainment Status	Concentration[3]	Attainment Status
Ozone (O_3)	8 Hour	0.070 ppm (137 µg/m³)	N[9]	0.070 ppm	N[4]
	1 Hour	0.09 ppm (180 µg/m³)	N	NA	N/A[5]
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m³)	A	9 ppm (10 mg/m³)	A[6]
	1 Hour	20 ppm (23 mg/m³)	A	35 ppm (40 mg/m³)	A
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m³)	A	0.10 ppm[11]	U
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)	-	0.053 ppm (100 µg/m³)	A
Sulfur Dioxide[12] (SO_2)	24 Hour	0.04 ppm (105 µg/m³)	A	0.14 ppm (365 µg/m³)	A
	1 Hour	0.25 ppm (655 µg/m³)	A	0.075 ppm (196 µg/m³)	A
	Annual Arithmetic Mean	NA	-	0.03 ppm (80 µg/m³)	A
Particulate Matter (PM_{10})	24-Hour	50 µg/m³	N	150 µg/m³	-U
	Annual Arithmetic Mean	20 µg/m³	N[7]	NA	-
	24-Hour	NA	-	35 µg/m³	U/A

Pollutant	Averaging Time	State Standards[1]		Federal Standards[2]	
		Concentration	Attainment Status	Concentration[3]	Attainment Status
Fine Particulate Matter ($PM_{2.5}$) [15]	Annual Arithmetic Mean	12 µg/m^3	N[7]	12 µg/m^3	N
Sulfates (SO_{4-2})	24 Hour	25 µg/m^3	A	NA	-
Lead (Pb)[13, 14]	30-Day Average	1.5 µg/m^3	-	NA	A
	Calendar Quarter	NA	-	1.5 µg/m^3	A
	Rolling 3-Month Average	NA	-	0.15 µg/m^3	-
Hydrogen Sulfide (H_2S)	1 Hour	0.03 ppm (42 µg/m^3)	U	NA	-
Vinyl Chloride (C_2H_3Cl)	24 Hour	0.01 ppm (26 µg/m^3)	-	NA	-
Visibility Reducing Particles[8]	8 Hour (10:00 to 18:00 PST)	-	U	-	-

Source: Bay Area Air Quality Management District, *Air Quality Standards and Attainment Status*, 2017. http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status.

A = attainment; N = nonattainment; U = unclassified; N/A = not applicable or no applicable standard; ppm = parts per million; µg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; – = not indicated or no information available.

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. In particular, measurements are excluded that CARB determines would occur less than once per year on the average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the state standard.
2. National standards shown are the "primary standards" designed to protect public health. National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.070 ppm (70 ppb) or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m$_3$. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m^3.
   Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the 3-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met if the 3-year average of annual averages spatially-averaged across officially designed clusters of sites falls below the standard.
3. National air quality standards are set by the EPA at levels determined to be protective of public health with an adequate margin of safety.
4. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over three years, is equal to or less than 0.070 ppm. EPA will make recommendations on attainment designations by October 1, 2016, and issue final designations October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the ozone level in the area.
5. The national 1-hour ozone standard was revoked by U.S. EPA on June 15, 2005.
6. In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.
7 In June 2002, CARB established new annual standards for $PM_{2.5}$ and PM_{10}.
8 Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.
9. The 8-hour CA ozone standard was approved by the Air Resources Board on April 28, 2005 and became effective on May 17, 2006.
10. On January 9, 2013, EPA issued a final rule to determine that the Bay Area attains the 24-hour $PM_{2.5}$ national standard. This EPA rule suspends key SIP requirements as long as monitoring data continues to show that the Bay Area attains the standard. Despite this EPA action, the Bay Area will continue to be designated as “nonattainment” for the national 24-hour $PM_{2.5}$ standard until such time as the Air District submits a “redesignation request” and a “maintenance plan” to EPA, and EPA approves the proposed redesignation.
11. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100ppm (effective January 22, 2010). The US Environmental Protection Agency (EPA) expects to make a designation for the Bay Area by the end of 2017.
12. On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO_2 NAAQS however must continue to be used until one year following U.S. EPA initial designations of the new 1-hour SO_2 NAAQS.

Pollutant	Averaging Time	State Standards[1]		Federal Standards[2]	
		Concentration	Attainment Status	Concentration[3]	Attainment Status

13. CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure below which there are no adverse health effects determined.
14. National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.
15. In December 2012, EPA strengthened the annual $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS) from 15.0 to 12.0 micrograms per cubic meter ($\mu g/m^3$). In December 2014, EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ NAAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.

6.4.2 Regional

Bay Area Air Quality Management District

The BAAQMD is the regional agency with jurisdiction over the nine-county region located within the Basin. The Association of Bay Area Governments (ABAG), Metropolitan Transportation Commission (MTC), county transportation agencies, cities and counties, and various nongovernmental organizations also join in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs.

Clean Air Plan

Air quality plans developed to meet federal requirements are referred to as State Implementation Plans. The federal and state Clean Air Acts require plans to be developed for areas designated as nonattainment (with the exception of areas designated as nonattainment for the state PM10 standard). The BAAQMD is responsible for developing a Clean Air Plan, which guides the region's air quality planning efforts to attain the CAAQS. The BAAQMD adopted the 2017 Clean Air Plan: Spare the Air, Cool the Climate on April 19, 2019, by the BAAQMD.

BAAQMD periodically develops air quality plans that outline the regional strategy to improve air quality and protect the climate. The most recent plan, 2017 Bay Area Clean Air Plan, includes a wide range of control measures designed to reduce emissions of air pollutants and GHGs, including the following examples that may be relevant to this project: reduce emissions of toxic air contaminants by adopting more stringent limits and methods for evaluating toxic risks; implement pricing measures to reduce travel demand; accelerate the widespread adoption of electric vehicles; promote the use of clean fuels; promote energy efficiency in both new and existing buildings; and promote the switch from natural gas to electricity for space and water heating in Bay Area buildings.

The 2017 Clean Air Plan provides a regional strategy to protect public health and protect the climate. To protect public health, the plan describes how the BAAQMD will continue progress toward attaining all state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate, the 2017 Clean Air Plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious greenhouse gas (GHG) reduction targets for 2030 and 2050 and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets. The 2017 Clean Air Plan contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NO_X), particulate matter, TACs, and greenhouse gas emissions. The Bay Area 2017 Clean Air Plan updates the Bay Area 2010 Clean Air Plan in accordance with the requirements of the California Clean Air Act to

implement "all feasible measures" to reduce ozone; provides a control strategy to reduce ozone, PM, TACs, and greenhouse gases in a single, integrated plan; reviews progress in improving air quality in recent years; and establishes emission control measures to be adopted or implemented in both the short term and through 2050.

The 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other "super-GHGs" that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

The following BAAQMD rules would limit emissions of air pollutants from construction and operation of the Project:

- Regulation 6, Rule 3. Wood-Burning Devices. The purpose of this rule is to limit emissions of particulate matter and visible emissions from wood-burning devices used for primary heat, supplemental heat or ambiance.
- Regulation 8, Rule 3. Architectural Coatings. This rule governs the manufacture, distribution, and sale of architectural coatings and limits the reactive organic gases content in paints and paint solvents. Although this rule does not directly apply to the project, it does dictate the ROG content of paint available for use during the construction.
- Regulation 8, Rule 15. Emulsified and Liquid Asphalts. This rule dictates the reactive organic gases content of asphalt available for use during construction through regulating the sale and use of asphalt and limits the ROG content in asphalt. Although this rule does not directly apply to the project, it does dictate the ROG content of asphalt for use during the construction.
- Regulation 9, Rule 8. Organic Compounds. This rule limits the emissions of nitrogen oxides and carbon monoxide from stationary internal combustion engines with an output rated by the manufacturer at more than 50 brake horsepower.

BAAQMD prepared an Ozone Attainment Demonstration Plan to satisfy the federal 1-hour ozone planning requirement because of the Air Basin's nonattainment for federal and State ozone standards. The U.S. EPA revoked the 1-hour ozone standard and adopted an 8-hour ozone standard. The BAAQMD will address the new federal 8-hour ozone planning requirements once they are established.

6.4.3 Local

City of East Palo Alto Climate Action Plan

The City released a Climate Action Plan (CAP) in December 2011 and updated it in 2014. The CAP presents goals and measures for reducing the City's GHG emissions. A 2005 emissions inventory for community-wide GHG emissions equaled 140,465 metric tons (MT) of CO_2e, with emissions from transportation constituting the single largest source in the City at about 63 percent.

Given the high projected business-as-usual emissions forecast for 2020, the City's emissions reduction goal was established as 15 percent below 2005 levels by 2020 through implementation of the CAP. To achieve this emissions reduction goal, the CAP structured objectives around four general categories: energy use in buildings, transportation and land use, waste, and municipal operations.

City of East Palo Alto General Plan

Project relevant general plan policies for air quality are addressed in this section. Where inconsistencies exist, if any, they are addressed in the respective impact analysis below. Relevant General Plan Policies that directly address reducing and avoiding air pollution impacts include the following:

Health and Equity

Goal 10: Improve respiratory health throughout the City and strive to reduce incidence of asthma and other respiratory illnesses.

- Policy 10.2: Air pollution mitigation. Require that new multifamily development located within 500 feet of freeways or along University Avenue implement appropriate mitigation measures such as air filtration/ventilation systems, landscaping and other physical improvements as recommended by the California Air Resources Board (CARB) and/or the Bay Area Air Quality Management District to reduce indoor air pollution.
- Policy 10.7: Other mobility strategies. Implement the strategies in the Transportation Element that improve air quality. These include transit, walking, biking and Transportation Demand Management (TDM) strategies.

6.5 Environmental Impacts and Mitigation Measures

6.5.1 Significance Criteria

Under CEQA, the BAAQMD is an expert commenting agency on air quality within its jurisdiction or impacting its jurisdiction. Under the Federal Clean Air Act (FCAA), the BAAQMD has adopted Federal attainment plans for O_3 and $PM_{2.5}$. The BAAQMD reviews projects to ensure that they would not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any Federal attainment plan.

The BAAQMD Options and Justification Report (dated October 2009) establishes thresholds based on substantial evidence, and the thresholds are consistent with the thresholds outlined within the 2010/2011 BAAQMD CEQA Air Quality Guidelines (and current 2017 CEQA Air Quality Guidelines). The thresholds have been developed by the BAAQMD in order to attain State and Federal ambient air quality standards. Therefore, projects below these thresholds would not violate an air quality standard and would not contribute substantially to an existing or projected air quality violation.

The BAAQMD's CEQA Air Quality Guidelines provides significance thresholds for both construction and operation of projects. Ultimately the lead agency determines the thresholds of significance for impacts. However, if a project proposes development in excess of the established thresholds, as outlined in Table 6-5: Bay Area Air Quality Management District Emissions Thresholds, a significant air quality impact may occur, and additional analysis is warranted to fully assess the significance of impacts.

Based upon the criteria derived from State CEQA Guidelines Appendix G, a project normally would have a significant effect on the environment if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Table 6-5: Bay Area Air Quality Management District Emissions Thresholds

Criteria Air Pollutants and Precursors (Regional)	Construction-Related	Operational-Related	
	Average Daily Emissions (pounds/day)	Average Daily Emission (pounds/day)	Annual Average Emission (tons/year)
Reactive Organic Gases (ROG)	54	54	10
Nitrogen Oxides (NO_X)	54	54	10
Coarse Particulates (PM_{10})	82 (exhaust)	82	15
Fine Particulates ($PM_{2.5}$)	54 (exhaust)	54	10
PM_{10} / $PM_{2.5}$ (fugitive dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average 20.0 ppm (1-hour average)	

Source: Bay Area Air Quality Management District, 2017 CEQA Air Quality Guidelines, 2017.

6.5.2 Impact Assessment Methodology

This air quality impact analysis considers construction and operational impacts associated with the project. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod). CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Air quality impacts were assessed according to methodologies recommended by CARB and the BAAQMD.

Construction equipment, trucks, worker vehicles, and ground-disturbing activities associated with project construction would generate emissions of criteria air pollutants and precursors. Air quality impacts were assessed according to CARB and BAAQMD recommended methodologies. Daily regional construction emissions are estimated by assuming construction occurs at the earliest feasible date (i.e., a conservative estimate of construction activities) and applying off-road, fugitive dust, and on-road emissions factors in CalEEMod.

Project operations would result in emissions of area sources (consumer products), energy sources (natural gas usage), and mobile sources (motor vehicles from project generated vehicle trips). Project-generated increases in operational emissions would be predominantly associated with motor vehicle use. The increase of traffic over existing conditions as a result of the project was obtained from the Project's Transportation Analysis prepared by Kimley-Horn. Other operational emissions from area, energy, and stationary sources were quantified in CalEEMod based on land use activity data.

The mitigated output from CalEEMod show reductions from existing regulatory requirements and project design features that are termed "mitigation" within the model; however, those modeling components associated with locational measures and compliance with existing regulations are not considered mitigation under CEQA, but rather are treated as project design features. The project would incorporate design features and would obtain benefits from its location that would reduce project vehicle miles traveled compared to default values. The measures incorporated into the CalEEMod modeling and mitigation component include:

- **LUT-1 Increase Density**: The project includes approximately 154 dwelling units per acre compared to the existing use with approximately 41 dwelling units per acre.
- **LUT-3 Increase Diversity of Land Uses**: The measure requires at least three different land uses within 0.25 mile. The project proposes a mixed-use infill project with commercial and residential, in an area surrounded by residential, office, commercial, and hotel.
- **SDT-1 Improve Pedestrian Access**: This measure provides pedestrian access linking the project to other areas to encourage walking. The measure requires both on-site and off-site pedestrian infrastructure. The project includes active transportation features that would meet the criteria of this measure. For example, the project would provide an enhanced pathway. The sidewalks would be ten feet wide and non-contiguous to the street, where practical. Internally, the project would develop interconnected pedestrian walkways that provide direct/convenient access between the commercial, retail, and hotel uses and to the surrounding street fronting sidewalks.

The reductions attributable to these measures in CalEEMod are derived from methodologies compiled in the CAPCOA report Quantifying GHG Measures. Each measure was assessed to determine its consistency with CAPCOA criteria for the use of the measure.

As discussed above, the BAAQMD provides significance thresholds for emissions associated with proposed project construction and operations. The proposed project's construction and operational emissions are compared to the daily criteria pollutant emissions significance thresholds in order to determine the significance of the project's impact on regional air quality.

6.5.3 Summary of No and/or Beneficial Impacts

Exposure to Odorous Emissions

The occurrence and severity of odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause physical harm, they can still be unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to violate the BAAQMD standards.

BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants. BAAQMD's thresholds for odors are qualitative based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Given these regulations, and the fact that there are no odorous emissions existing or proposed on or near the project site, there would be no impact.

6.5.4 Impacts of the Proposed Project

Impact AQ-1: The project would not conflict with or obstruct with implementation of the applicable air quality plan. This is a less than significant impact.

The project site is located in the San Francisco Bay Area Air Basin (Basin) which includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of

Sonoma County, and the southwestern portion of Solano County. The Bay Area Air Quality Management District (BAAQMD) and the California Air Resources Board (CARB) monitor air quality within the Basin. Air quality plans describe air pollution control strategies and measures to be implemented by a city, county, region, and/or air district. The primary purpose of an air quality plan is to bring an area that does not attain federal and State air quality standards into compliance with the requirements of the federal Clean Air Act and California Clean Air Act. In addition, air quality plans are developed to ensure that an area maintains a healthful level of air quality based on the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). The Air Quality Management Plan (AQMP) is prepared by BAAQMD. The AQMP provides policies and control measures that reduce emissions to attain both State and federal ambient air quality standards.

The most recently adopted plan, the Clean Air Plan, in the Basin outlines how the San Francisco area will attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions. The Clean Air Plan assumptions for projected air emissions and pollutants in the City of East Palo Alto are based on the General Plan Land Use Designation Map which designates the project site use as "High-Density Residential". Based on the Vista 2035 General Plan EIR, up to 900 net new residential units were assumed in this area. The project site is zoned "Urban Residential". The Urban Residential Zoning District allows a range of multi-family housing types ranging from townhomes to multi-family apartments at moderate to high densities. The project would be consistent with the development assumptions for this land use. Therefore, the project is consistent with the General Plan assumptions. With 161 existing apartment units in the project and 605 proposed, the project will yield a net increase of 444 units, which is consistent with the General Plan land use designation and would not increase the regional population growth or cause changes in vehicle traffic that would obstruct implementation of the Clean Air Plan in the San Francisco Bay Area Basin.

As described below, construction and operational air quality emissions generated by the proposed project would not exceed the BAAQMD's emissions thresholds. Since the proposed project would not exceed these thresholds, the proposed project would not be considered by the BAAQMD to be a substantial emitter of criteria air pollutants and would not contribute to any non-attainment areas in the Basin.

The project proposes adding the Neighborhood Center Residential Overlay (NCO) designation to the General Plan. The new uses allowed by the project include 5,000 square feet of retail space. The proposed project would result in approximately eight new employment opportunities. ABAG predicts that job opportunities in the City of East Palo Alto will grow from 7,235 in 2010 to 8,675 by 2040. As of 2015, there are 7,430 job opportunities in the City. While the project was not contemplated by the City's General Plan, the addition of eight new jobs would be within the ABAG growth projections for the City of approximately 8,675 jobs by 2040 and would not exceed the ABAG growth projections for the City. Therefore, population growth from the project would be consistent with ABAG's projections for the City and with the City's General Plan.

The proposed project would generate approximately 1,332 new residents.[1] As discussed in Chapter 14 Land Use, Population, & Housing, the project is compatible with the environmental objectives of the Westside Area Plan. As such, the project would not conflict with the General Plan and Westside Area

[1] 444 net increase of dwelling units with multi-family housing population size of 3 persons per household = 1,332

Plan. Therefore, the addition of new residents would be within the growth projections for the City. The project would not exceed the level of population or housing in regional planning efforts. Additionally, as discussed in Chapter 17 Transportation the proposed project would not significantly affect regional vehicle miles travelled pursuant to the CEQA Guidelines (Section 15206). The project would have a less than significant impact to residential VMT and would be below the citywide residential VMT average. Therefore, population growth from the project would be consistent with ABAG's projections for the City and with the City's General Plan.

A project would be consistent with the 2017 Clean Air Plan Progress Report if it would not exceed the growth assumptions in the plan. The primary method of determining consistency with the 2017 Clean Air Plan growth assumptions is consistency with the General Plan land use designations and zoning designations for the site. It should be noted that the Clean Air Plan does not make a specific assumption for development on the site, but bases assumptions on growth in population, travel, and business, based on socioeconomic forecasts. As noted above, the project would not exceed the growth assumptions in the General Plan. Therefore, the growth assumptions in the Clean Air Plan would not be exceeded.

Given that approval of a project would not result in significant and unavoidable air quality impacts after the application of all feasible mitigation, the project is considered consistent with the 2017 Clean Air Plan. In addition, projects are considered consistent with the 2017 Clean Air Plan if they incorporate all applicable and feasible control measures from the 2017 Clean Air Plan and would not disrupt or hinder implementation of any 2017 Clean Air Plan control measures, as shown in Table 6-6: Consistency with Applicable Clean Air Plan Control Measures. This is a **less than significant impact.**

Table 6-6: Consistency with Applicable Clean Air Plan Control Measures

Control Measure	Project Consistency
Stationary Source Control Measures	
SS21: New Source Review of Toxic Air Contaminants	**Consistent**. The project would not include uses that would generate new sources of TAC to impacts to the nearby sensitive receptors.
SS25: Coatings, Solvents, Lubricants, Sealants and Adhesives	**Consistent**. The project would comply with Regulation 8, Rule 3: Architectural Coatings, which would dictate the ROG content of paint available for use during construction (also required per SC AQ-2.1).
SS26: Surface Prep and Cleaning Solvent	
SS29: Asphaltic Concrete	**Consistent**. Paving activities associated with the project would be required to utilize asphalt that does not exceed BAAQMD emission standards in Regulation 8, Rule 15.
SS30: Residential Fan Type Furnaces	**Consistent**. BAAQMD is the responsible party for implementation of this regulation. The project would use the latest central furnaces that comply with the applicable regulations. The project would not conflict with BAAQMD's implementation of that measure.
SS31: General Particulate Matter Emissions Limitation	**Consistent**. This control measure is implemented by the BAAQMD through Regulation 6, Rule 1. This Rule Limits the quantity of particulate matter in the atmosphere by controlling emission rates, concentration, visible emissions and opacity. The project would be required to comply with applicable BAAQMD rules.

Control Measure	Project Consistency
SS32: Emergency Back-up Generators	**Consistent**. Use of back-up generators by the project is anticipated for the pump station. However, the emergency generators would be required to meet the BAAQMD's emissions standards for back-up generators.
SS33: Commercial Cooking Equipment	**Consistent**. The project does include the potential development of additional restaurant facilities. However, if any kitchen facilities or restaurants occur and they install a charbroiler, a catalytic oxidizer system must also be installed pursuant to BAAQMD Rule 6-2.
SS34: Wood Smoke	**Consistent**. The project would comply with BAAQMD Regulation 6, Rule 3 and prohibit the construction of wood burning appliances/ fireplaces.
SS36: Particulate Matter from Trackout	**Consistent**. Mud and dirt that may be tracked out onto the nearby public roads during construction activities would be removed promptly by the contractor based on BAAQMD's requirements.
SS37: Particulate Matter from Asphalt Operations	**Consistent**. Paving and roofing activities associated with the project would be required to utilize best management practices to minimize the particulate matter created from the transport and application of road and roofing asphalt.
SS38: Fugitive Dust	**Consistent**. Material stockpiling and track out during grading activities as well as smoke and fumes from paving and roofing asphalt operations would be required to utilize best management practices, such as watering exposed surfaces twice a day, covering haul trucks, keeping vehicle speeds on unpaved roads under 15 mph, to minimize the creation of fugitive dust. See SC AQ-2.1 BAAQMD Basic Construction Measures for a more detailed list.
SS40: Odors	**Consistent**. The project is a mixed-use development and is not anticipated to generate odors. The project would comply with Regulation 7 to strengthen odor standards and enhance enforceability.
Transportation Control Measures	
TR2: Trip Reduction Programs	**Consistent**. The project would include a number of travel demand measures (TDM) such as mix of land uses and ride sharing. These TDM Programs would help reduce vehicle miles traveled (VMT) and mobile greenhouse gas emissions.
TR8: Ridesharing and Last-Mile Connections	
TR9: Bicycle and Pedestrian Access Facilities	**Consistent**. There is currently pedestrian access to/from the project site via sidewalks on both sides of O'Connor Street, on both sides of Euclid Avenue between E O'Keefe Street and O'Connor Street, and both sides of W Bayshore Road/Manhattan Avenue between O'Connor Street and the Four Seasons Hotel Driveway. Bicyclists currently share the road with vehicles along O'Connor Street and W Bayshore Road/Manhattan Avenue. Bicycle lanes along O'Connor Street and W. Bayshore Road/Manhattan Avenue would remain and would connect to any existing bicycle routes. In addition, the proposed driveways would be able to safely accommodate bicyclists in both directions and vehicles accessing the project site. Additionally, the project would provide improvements to enhance the pedestrian access on- and off-

Control Measure	Project Consistency
	site.
TR10: Land Use Strategies	**Consistent**. This measure is a BAAQMD funding tool to maintain and disseminate information on current climate action plans and other local best practices and collaborate with regional partners to identify innovative funding mechanisms to help local governments address air quality and climate change in their general plans. In addition, the proposed project would include a new sheltered bus stop at the northeast corner of Euclid Avenue and O'Connor Street. Therefore, residents would have easily accessible transit, furthering the City's General Plan goals to support a healthy community, reduce traffic congestion and decrease greenhouse gas emissions and energy consumption. The project would not conflict with implementation of this measure.
TR13: Parking Policies	**Consistent**. The project site has 207 existing parking spaces. The proposed project would create approximately 696 parking spaces. The proposed parking is sufficient for the proposed uses.
TR19: Medium and Heavy Duty Trucks	**Not Applicable**. The project does not involve warehousing or industrial uses that would generate substantial truck trips. Therefore, the project would not conflict with the implementation of this measure.
TR22: Construction, Freight and Farming Equipment	**Consistent**. The project would comply through implementation of Mitigation Measure AQ-3.1, which requires construction equipment (graders and scrapers) to meet the Tier 4 emissions standards.
Energy and Climate Control Measures	
EN1: Decarbonize Electricity Generation	**Consistent**. The project would be constructed in accordance with the latest California Building Code and green building regulations/CalGreen and with the City of East Palo Alto's California Green Building Standards Code.
EN2: Decrease Electricity Demand	
Buildings Control Measures	
BL1: Green Buildings	**Consistent**. The project would be constructed in accordance with the latest California Building Code and green building regulations/CalGreen.
L2: Decarbonize Buildings	
BL4: Urban Heat Island Mitigation	**Consistent**. The project would demolish existing buildings to create two residential buildings, with a parking garage retail space and park area, on either side Euclid Avenue. The project would include some open space and landscaping for passive recreational uses serving the project.
Natural and Working Lands Control Measures	
NW2: Urban Tree Planting	**Consistent**. The project includes minor landscaping with native vegetation and trees.
Waste Management Control Measures	
WA1: Landfills	**Consistent**. The waste service provider for the project would be required to meet the AB 341 and SB 939, 1374, and 1383 requirements
WA3: Green Waste Diversion	

Control Measure	Project Consistency
WA4: Recycling and Waste Reduction	that require waste service providers to divert and recycle waste. Per Cal Green requirements the project would recycle construction waste.
Water Control Measures	
WR2: Support Water Conservation	**Consistent**: The project would implement water conservation measures and low flow fixtures as required by Title 24, CalGreen, and the City of East Palo Alto's Municipal Code Section 17.06 Water Efficient Landscaping Ordinance, which includes various specifications for plant types, water features, and irrigation design etc.

Source: BAAQMD, Clean Air Plan, 2017 and Kimley-Horn & Associates, 2020.

The project is consistent with the City General Plan; therefore, the addition of new residents would be within the growth projections for the City. The project would not exceed the level of population or housing in regional planning efforts. The addition of eight new jobs would be within the ABAG growth projections for the City of approximately 554,875 jobs by 2040 and would not exceed the ABAG growth projections for the City. Therefore, population growth from the project would be consistent with ABAG's projections for the City and with the City's General Plan. Thus, the project would not exceed the assumptions in the General Plan EIR or the Clean Air Plan.

Impact AQ-2: The project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard. This is a less than significant impact.

Construction Impacts

Project construction activities would generate short-term emissions of criteria air pollutants. The criteria pollutants of primary concern within the project area include ozone-precursor pollutants (i.e., reactive organic gases [ROG] and nitrogen oxides [NO_x]) and particulate matter 10 microns in size or less (PM_{10}) and particulate matter 2.5 microns in size or less ($PM_{2.5}$). Construction-generated emissions are short term and temporary, lasting only while construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the BAAQMD's thresholds of significance.

Construction results in the temporary generation of emissions during site preparation, site grading, road paving, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities, as well as weather conditions and the appropriate application of water.

The duration of construction activities associated with the project are estimated to last approximately three years. The project's construction-related emissions were calculated using the BAAQMD-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Project site preparation, and grading are anticipated to begin in early 2022. The project would export approximately 2,600 cubic yards (cy) of soil. Paving was modeled to be completed early 2023. Building construction was estimated to begin early 2023 and last

approximately two years to Spring 2025. Architectural coating would begin Fall of 2024 and end Spring 2025. The exact construction timeline is unknown, however, to be conservative, earlier dates were utilized in the modeling. This approach is conservative given that emissions factors decrease in future years due to regulatory and technological improvements and fleet turnover. See **Appendix B** for additional information regarding the construction assumptions used in this analysis. Table 6-7: Project Daily Construction Emissions displays the maximum daily emissions in pounds per day that are expected to be generated from the construction of the proposed project in comparison to the daily thresholds established by the BAAQMD.

Table 6-7: Project Daily Construction Emissions

Construction Year	Pollutant (pounds/day)[1]					
	ROG	NO_x	Exhaust		Fugitive Dust	
			PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Unmitigated Scenario[1]						
2022	3.69	39.44	1.64	1.51	18.21	9.97
2023	3.10	23.48	0.74	0.69	5.30	1.42
2024	50.56	23.58	0.72	0.68	6.21	1.66
2025	50.38	22.25	0.62	0.59	6.21	1.66
Maximum	***50.56***	***39.44***	***1.64***	***1.51***	***18.21***	***9.97***
BAAQMD Significance Threshold [2, 3]	54	54	82	54	N/A	N/A
Exceed BAAQMD Threshold?	**No**	**No**	**No**	**No**	**N/A**	**N/A**
Mitigated Scenario[1]						
2022	0.83	4.19	0.10	0.10	7.86	4.28
2023	2.06	11.75	0.13	0.13	5.03	1.36
2024	49.61	12.75	0.19	0.18	5.90	1.59
2025	49.51	12.35	0.17	0.17	5.90	1.59
Maximum	***49.61***	***12.75***	***0.19***	***0.19***	***7.86***	***4.28***
BAAQMD Significance Threshold [2, 3]	54	54	82	54	N/A	N/A
Exceed BAAQMD Threshold?	**No**	**No**	**No**	**No**	**N/A**	**N/A**

Source: Refer to the CalEEMod outputs provided in **Appendix B**.
Notes:
1. Emissions were calculated using CalEEMod. Mitigated emissions include compliance with the BAAQMD's Basic Construction Mitigation Measures Recommended for All Projects and SC AQ-2.1. These measures include the following: water exposed surfaces two times daily; cover haul trucks; clean track outs with wet powered vacuum street sweepers; limit speeds on unpaved roads to 15 miles per hour; complete paving as soon as possible after grading; limit idle times to 5 minutes; properly maintain mobile and other construction equipment; and post a publicly visible sign with contact information to register dust complaints and take corrective action within 48 hours. Additionally, the mitigated scenario would implement MM AQ-3.1, which would require all off-road diesel powered construction equipment meet CARB Tier 4 Final emissions standards.
2. Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, updated May 2017.
3. BMPs = Best Management Practices. The BAAQMD recommends the implementation of all Basic Construction Mitigation Measures, whether or not construction-related emissions exceed applicable significance thresholds. Implementation of Basic Construction Mitigation measures are considered to mitigate fugitive dust emissions to be less than significant.

The project would also include the construction of the water tank and fire pump station. The construction would include minimal site preparation, grading, and construction of the equipment. The

preparation of the site and construction of the tank and pump station was incorporated into the emissions and assumptions above. Impacts would remain below BAAQMD thresholds.

Fugitive Dust Emissions

Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill operations, demolition, and truck travel on unpaved roadways. Dust emissions also vary substantially from day to day, depending on the level of activity, the specific operations, and weather conditions. Fugitive dust emissions may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the project vicinity. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. The BAAQMD recommends the implementation of all Basic Construction Mitigation Measures, whether or not construction-related emissions exceed applicable significance thresholds. See SC AQ-2.1.

Construction Equipment and Worker Vehicle Exhaust.

Exhaust emission factors for typical diesel-powered heavy equipment are based on the CalEEMod program defaults. Variables factored into estimating the total construction emissions include: level of activity, length of construction period, number of pieces/types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported onsite or offsite. Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, emissions produced on site as the equipment is used, and emissions from trucks transporting materials and workers to and from the site. Emitted pollutants would include ROG, NO_X, PM_{10}, and $PM_{2.5}$. The BAAQMD recommends the implementation of all Basic Construction Mitigation Measures, whether or not construction-related emissions exceed applicable significance thresholds. See SC AQ-2.1. Additionally, the MM AQ-3.1 requires graders and scrapers used during construction to meet CARB Tier 4 Final emissions standards.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. In accordance with the methodology prescribed by the BAAQMD, the ROG emissions associated with paving have been quantified with CalEEMod.

Total Construction Emissions

The highest concentration of ROG emissions would be generated from architectural coating beginning in Fall 2024 and lasting approximately eight months. This phase includes the interior and exterior painting as well as striping of all paved parking areas and roadways. Paints would be required to comply with BAAQMD Regulation 8, Rule 3: Architectural Coating. Regulation 8, Rule 3 provides specifications on painting practices and regulates the ROG content of paint.

As shown in Table 6-7: Project Daily Construction Emissions, all criteria pollutant emissions would remain below their respective thresholds. However, BAAQMD considers fugitive dust emissions to be potentially significant without implementation of fugitive dust controls. Accordingly, SC AQ-2.1 is required to reduce fugitive dust emissions to less than significant. NO_X emissions are primarily generated by engine combustion in construction equipment, haul trucks, and employee commuting, requiring the use of newer construction equipment with better emissions controls would reduce construction-related NO_X emissions. While unmitigated criteria pollutant emissions shown in Table 6-7: Project Daily

Construction Emissions are below BAAQMD thresholds, MM AQ-3.1 is required for construction health risk impacts. As discussed in Impact AQ-3 below, without MM AQ-3.1 pollutant concentration and maximum cancer risk would exceed BAAQMD thresholds. The mitigating effects of MM AQ-3.1 are included in Table 6-7: Project Daily Construction Emissions for disclosure purposes and is not required for Impact AQ-2.

Implementation of the following standard condition would further ensure impacts would be reduced to a less than significant level for all construction activities on the project site. Impacts would be **less than significant.**

Project Condition of Approval

SC AQ-2.1 BAAQMD Basic Construction Measures

BAAQMD Basic Construction Measures. Prior to any grading activities, the applicant shall prepare and implement A Construction Management Plan that includes the BAAQMD Basic Construction Mitigation Measures to minimize construction-related emissions. This shall plan shall first be reviewed and approved by the Director of Public Works/City Engineer. The BAAQMD Basic Construction Mitigation Measures are:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Operation Impacts

Operational emissions for mixed-use developments are typically generated from mobile sources (burning of fossil fuels in cars); energy sources (cooling, heating, and cooking); and area sources (landscape equipment and household products). Table 6-8: Project Daily Operational Emissions, shows that the project's maximum emissions would not exceed BAAQMD operational thresholds.

Table 6-8: Project Daily Operational Emissions

Construction Year	Pollutant (pounds/day)[1]					
	ROG	NO_x	Exhaust		Fugitive Dust	
			PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Area[2]	17.04	0.58	0.27	0.28	-	-
Energy	0.12	1.06	0.09	0.08	-	-
Mobile[4]	6.50	5.90	0.08	0.07	12.10	3.23
Stationary	2.00	5.60	0.30	0.30	-	-
Total Project Emissions	***25.66***	***13.12***	***0.73***	***0.73***	***12.10***	***3.23***
BAAQMD Significance Threshold [3]	54	54	82	54	N/A	N/A
Exceed BAAQMD Threshold?	**No**	**No**	**No**	**No**	**N/A**	**N/A**

Source: Refer to the CalEEMod outputs provided in **Appendix B**.
Notes:
1. Emissions were calculated using CalEEMod. BAAQMD includes an average daily emission (lbs/day) and maximum annual emissions (tons/year) thresholds. Both are acceptable thresholds by the air district. CalEEMod outputs are Maximum Daily emissions (lbs/day). Daily Emissions in the table are shown in maximum daily emissions for a slightly more conservative and consistent approach with construction-related thresholds.
2. The project would comply with BAAQMD Regulation 6, Rule 3 and prohibit the construction of wood burning appliances/ fireplaces.
3. Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, 2017
4. Mobile emissions were calculated with various land use design features such as project diversity, density, and improving pedestrian access (discussed in methodology section above)

Area Source Emissions

Area source emissions would be generated due to an increased demand for consumer products, architectural coating, hearths, and landscaping. The project would comply with BAAQMD Regulation 6, Rule 3 which prohibits the construction of wood burning appliances and fireplaces.

Energy Source Emissions

Energy source emissions would be generated as a result of electricity and natural gas (non-hearth) usage associated with the project. The primary use of electricity and natural gas by the project would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics.

Mobile Sources

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport PM_{10} and $PM_{2.5}$). However, CO tends to be a localized pollutant, dispersing rapidly at the source.

Project-generated vehicle emissions have been estimated using CalEEMod. Trip generation rates associated with the project were based on the Project Traffic Impact Study. Based on the Traffic Analysis (summarized in Chapter 17, Traffic and Circulation), the project would result in a net of 2,748 new total daily vehicle trips.

Total Operational Emissions

As indicated in Table 6-8: Project Daily Operational Emissions, net project operational emissions would not exceed BAAQMD thresholds. As noted above, the BAAQMD has set its CEQA significance threshold based on the trigger levels for the federal NSR Program and BAAQMD's Regulation 2, Rule 2 for new or modified sources. The NSR Program was created to ensure projects are consistent with attainment of health-based federal ambient air quality standards. The federal ambient air quality standards establish the levels of air quality necessary, with an adequate margin of safety, to protect the public health. Therefore, the project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation and no criteria pollutant health impacts would occur. Project operational emissions would be less than significant.

Cumulative Short-Term Emissions

The SFBAAB is designated nonattainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards and nonattainment for O_3 and $PM_{2.5}$ for Federal standards. As discussed above, the project's construction-related emissions by themselves would not have the potential to exceed the BAAQMD significance thresholds for criteria pollutants.

Since these thresholds indicate whether an individual project's emissions have the potential to affect cumulative regional air quality, it can be expected that the project-related construction emissions would not be cumulatively considerable. The BAAQMD recommends Basic Construction Control Measures for all projects whether or not construction-related emissions exceed the thresholds of significance. Compliance with BAAQMD construction-related mitigation requirements are considered to reduce cumulative impacts at a Basin-wide level. As a result, construction emissions associated with the project would not result in a cumulatively considerable contribution to significant cumulative air quality impacts.

Cumulative Long-Term Impacts

The BAAQMD has not established separate significance thresholds for cumulative operational emissions. The nature of air emissions is largely a cumulative impact. As a result, no single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The BAAQMD developed the operational thresholds of significance based on the level above which a project's individual emissions would result in a cumulatively considerable contribution to the Basin's existing air quality conditions. Therefore, a project that exceeds the BAAQMD operational thresholds would also be a cumulatively considerable contribution to a significant cumulative impact.

As shown in Table 6-8: Project Daily Operational Emissions, the project's operational emissions would not exceed BAAQMD thresholds. As a result, operational emissions associated with the project would not result in a cumulatively considerable contribution to significant cumulative air quality impacts.

Impact AQ-3: The project could expose sensitive receptors to substantial pollutant concentrations. This is a less than significant impact with mitigation incorporated.

Sensitive land uses are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. Sensitive receptors in the area include single-family residences approximately 10 feet to the west of the project site.

Construction Toxic Air Contaminants

Construction equipment and associated heavy-duty truck traffic generate diesel exhaust, which is a known toxic air contaminants (TAC). Diesel exhaust from construction equipment operating at the site poses a health risk to nearby sensitive receptors. The closest sensitive receptor to the project site are the residences to the east and south of the project site. BAAQMD provides guidance for evaluating impacts from TACs in its CEQA Air Quality Guidelines document. As noted therein, an incremental cancer risk of greater than 10 cases per million at the Maximally Exposed Individual (MEI) will result in a significant impact. The BAAQMD considers exposure to annual $PM_{2.5}$ concentrations that exceed 0.3 $\mu g/m^3$ from a single source to be significant. The BAAQMD significance threshold for non-cancer hazards is 1.0.

Stationary sources within a 1,000-foot radius of the project site were identified using BAAQMD's Stationary Source Screening Analysis Tools and consultation with the BAAQMD. BAAQMD confirmed five sources exist within 1,000-feet of the project site.

Construction-Related Diesel Particulate Matter

Project construction would generate diesel particulate matter (DPM) emissions from the use of off-road diesel equipment required for grading and excavation, paving, and other construction activities. For construction activity, DPM is the primary toxic air contaminant of concern. On-road diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they would not stay on the site for long durations. Diesel exhaust from construction equipment operating at the site poses a health risk to nearby sensitive receptors. The closest sensitive receptor are single-family residences approximately 20 feet west of the project site.

The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards).

Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The use of diesel-powered construction equipment would be episodic and would occur in various phases throughout the project site. Additionally, construction activities would limit idling to no more than five minutes (per City and State standards, see Standard Permit Condition in impact section above), which would further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. Furthermore, even during the most intense year of construction, emissions of DPM would be generated from different locations on the project site rather

than in a single location because different types of construction activities (e.g., site preparation and building construction) would not occur at the same place at the same time.

$PM_{2.5}$ construction emissions rates in grams per second were calculated from the total annual on-site exhaust emissions reported in CalEEMod (0.18 tons unmitigated and 0.02 tons per year mitigated) total during construction. It should be noted that although construction would span over a couple of years, the modeling conservatively uses the year with the highest emission for each phase. Annual emissions were converted to grams per second and these emissions rates were input into AERMOD.

As noted above, maximum (worst case) $PM_{2.5}$ exhaust construction emissions over the entire construction period were used in AERMOD to approximate construction DPM emissions. Risk levels were calculated based on the California Office of Environmental Health Hazard Assessment (OEHHA) guidance document, Air Toxics Hot Spots Program Risk Assessment Guidelines (February 2015). Results of this assessment are summarized in Table 6-9: Construction Risk.

Table 6-9: Construction Risk

Exposure Scenario	Pollutant Concentration ($\mu g/m^3$)	Maximum Cancer Risk (Risk per Million)	Chronic Noncancer Hazard	Acute Noncancer Hazard
Unmitigated Scenario				
Construction	0.306	97.55	0.061	0.959
Threshold	*0.3*	*10 in one million*	*1.0*	*1.0*
Threshold Exceeded	**Yes**	**Yes**	**No**	**No**
Mitigated Scenario				
Construction[1]	0.030	9.60	0.006	0.095
Threshold	*0.3*	*10 in one million*	*1.0*	*1.0*
Threshold Exceeded	**No**	**No**	**No**	**No**

[1] Heavy-duty off-road construction equipment would also meet CARB Tier 4 Final emissions standards per MM AQ-3.1. Refer to **Appendix B**.

Results of this assessment indicate that the maximum unmitigated concentration of $PM_{2.5}$ during construction would be 0.306 $\mu g/m^3$, which would exceed the BAAQMD threshold of 0.3 $\mu g/m^3$. Incorporation of MM AQ-3.1, detailed below, would further reduce the project $PM_{2.5}$ concentration to 0.03 $\mu g/m^3$. The highest calculated carcinogenic risk from project construction, without implementation of MM AQ-3.1, would be 97.55 per million, which would exceed the BAAQMD threshold of 10 in one million. However, MM AQ-3.1 would reduce the project's maximum cancer risk to 9.60 per million, which is below the BAAQMD threshold of 10 in one million. Non-cancer hazards for DPM would be below BAAQMD threshold, with a chronic hazard index computed at 0.06 and an acute hazard index of 0.96 for unmitigated and 0.01 chronic hazard and 0.095 acute hazard index for mitigated. Acute and chronic hazards would be below the BAAQMD significance threshold of 1.0. As described above, worst-case construction risk levels based on screening-level modeling (AERMOD) and conservative assumptions would be below the BAAQMD's thresholds for mitigated construction with MM AQ-3.1. Therefore, construction risk levels would be **less than significant** with implementation of the identified MM AQ-3.1.

Operations

The project would include a fire tank and pump station. The fire pump house would include one 305 hp diesel engine and one 300 hp electric motor pump sets. Table 6-10 shows the maximum unmitigated concentration of $PM_{2.5}$ during operations of the diesel pump would be 0.00012 µg/m^3, which would not exceed the BAAQMD threshold of 0.3 µg/m^3. The highest calculated carcinogenic risk from the diesel pump operation would be 0.104 per million, which would not exceed the BAAQMD threshold of 10 in one million. Non-cancer hazards would be below BAAQMD threshold, with a chronic hazard index computed at 0.00002 and an acute hazard index of 0.00073. Acute and chronic hazards would be below the BAAQMD significance threshold of 1.0. Therefore, operations of the pump station would be **less than significant**.

Table 6-10: Pump Station Health Risk

Exposure Scenario	Pollutant Concentration (µg/m^3)	Maximum Cancer Risk (Risk per Million)	Chronic Noncancer Hazard	Acute Noncancer Hazard
Pump Station (Diesel)	0.00012	0.104	0.00002	0.00073
Threshold	*0.3*	*10 in one million*	*1.0*	*1.0*
Threshold Exceeded	**No**	**No**	**No**	**No**

Refer to **Appendix B**.

Mobile Sources

The project would place sensitive receptors within 1,000-feet of two major roadways (US-101 and University Avenue). Using the BAAQMD GIS data the highest cancer risk would be from highway US-101. As noted in Section 3 above, CCR Title 24 Part 6 requires new development to use Minimum Efficiency Reporting Value (MERV) 13 air filtration on space conditioning systems and ventilation systems that provide outside air to the occupiable space of a dwelling. A MERV 13 filter has a particle removal efficiency in the range of 80-90 percent. An 80 percent removal efficiency was conservatively used for the purposes of this study. According to the U.S. EPA's *Exposure Factor Handbook* (2011), on average, people spend 90 percent of their time indoors. As residents are not always indoors, the filtration's overall effectiveness accounts for the time spent outdoors, which equates to approximately three hours per day. It is noted that this is a conservative assumption for this project, as all of the time spent outdoors would not occur at the project site. SC AQ-3.1 below includes details on the ventilation requirements.

Project Condition of Approval

SC AQ-3.1 Ventilation System Air Filters

The ventilation system shall be provided with air filter(s) having a designated efficiency equal to or greater than MERV 13 when tested in accordance with ASHRAE Standard 52.2, or a particle size efficiency rating equal to or greater than 50 percent in the 0.30-1.0 µm range and equal to or greater than 85 percent in the 1.0-3.0 µm range, when tested in accordance with Air-Conditioning, Heating, and Refrigeration Institute (AHRI) Standard 680 (California Energy Commission, 2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings, Section 150.0[m][12]).

Carbon Monoxide Hotspots

Intersection Hotspots. The primary mobile-source criteria pollutant of local concern is carbon monoxide. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Transport of this criteria pollutant is extremely limited; CO disperses rapidly with distance from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. CO concentration modeling is therefore typically conducted for intersections that are projected to operate at unacceptable levels of service during peak commute hours.

The SFBAAB is designated as in attainment for carbon monoxide (CO). Emissions and ambient concentrations of CO have decreased dramatically in the SFBAAB with the introduction of the catalytic converter in 1975. No exceedances of the CAAQS or NAAQS for CO have been recorded at nearby monitoring stations since 1991. As a result, the BAAQMD screening criteria notes that CO impacts may be determined to be less than significant if a project would not increase traffic volumes at local intersections to more than 44,000 vehicles per hour, or 24,000 vehicles per hour for locations in heavily urban areas, where "urban canyons" formed by buildings tend to reduce air circulation. Traffic would increase along surrounding roadways during long-term operational activities.

According to the Traffic Analysis prepared for the project (2020), the project would generate 3,926 daily trips (2,748 net daily vehicle trips). The project's effects to existing vehicle distribution and travel speeds would be nominal. Therefore, the project would not involve intersections with more than 24,000 or 44,000 vehicles per hour. As a result, the project would not have the potential to create a CO hotspot and impacts would be less than significant.

Parking Structure Hotspots. Carbon Monoxide concentrations are a function of vehicle idling time, meteorological conditions, and traffic flow. Therefore, parking structures (and particularly subterranean parking structures) tend to be of concern regarding CO hotspots, as they are enclosed spaces with frequent cars operating in cold start mode. The proposed project includes approximately 625 parking spaces which would be constructed within the underground parking garage. The proposed project would be required to comply with the ventilation requirements of the International Mechanical Code (Section 404 [Enclosed Parking Garages]), which requires that mechanical ventilation systems for enclosed parking garages operate automatically by means of carbon monoxide detectors in conjunction with nitrogen dioxide detectors. Section 404.2 requires a minimum air flow rate of 0.05 cubic feet per second per square foot and the system shall be capable of producing a ventilation airflow rate of 0.75 cubic per second per square foot of floor plan area. Impacts in regard to parking structure CO hotspots would be less than significant.

Cumulative On-Site Health Impacts

Pursuant to *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, Case No. S213478, agencies are not required to analyze the CEQA impact of existing environmental conditions on a project's future users or residents, unless the proposed project risks exacerbate those environmental hazards or conditions that already exist. Nevertheless, the following

mobile source health risk analysis has been prepared as an information item for land use decision making but is not a CEQA required analysis condition.

The Project would place sensitive receptors within 1,000 feet of US-101 (mobile TAC sources). In addition to mobile sources, stationary sources within a 1,000-foot-radius of the project site were identified using BAAQMD's Stationary Source Screening Analysis Tools and consultation with the BAAQMD. As indicated in Table 6-11: Cumulative On-Site Health Risk, TACs generated from the stationary and roadway sources within a 1,000-foot-radius would not exceed BAAQMD thresholds.

As shown in Table 6-11, the highest calculated carcinogenic risk at the project site would be 9.9 per million for future residents. The risk calculations are based on the pollutant concentration at the worst-case location and conservatively assume: no cleaner technology or lower emissions in future years, and 95th percentile breathing rates.

Table 6-11: Cumulative On-Site Health Risk

Emissions Sources	$PM_{2.5}$ ($\mu g/m^3$)	Cancer Risk (per million	Hazard
Onsite- Diesel Pump	0.0001	0.104	0.00002
US-101	0.26	9.9	0.052
Major Streets	0.01	0.48	0.002
Railway	0.002	0.66	0.0004
University Circle	0.01	5.05	0.00
Four Season	0.09	0.46	0.00
University Plaza	0.00	0.10	0.00
Chevron	0.00	2.14	0.01
Redwood City School District	0.00	0.01	0.00
BAAQMD Threshold	0.3	10	1.0
Threshold Exceeded?	**No**	**No**	**No**
Cumulative Health Risk Values	0.37	18.90	0.06
BAAQMD Cumulative Threshold	*0.8*	*100*	*10*
Threshold Exceeded?	**No**	**No**	**No**

In May 2016 the BAAQMD released the Planning Healthy Places guidebook that provides air quality and public health information for locations throughout the Bay Area. The BAAQMD also provides web-based interactive maps that show the location of communities and places throughout the region that are estimated to have elevated levels of fine particulates and/or TACs. The maps identify where best practices and further study should be applied.

Based on the mapping, the project site is not located in an area that requires further study. However, the project is within a best practices area. Best practices that apply to the project site include the placing sensitive land uses as far from freeways as possible, placing sensitive receptors away from emissions sources, limiting ground floor uses. As indicated above, the project is a mixed-use development that is located within the BAAQMD's recommended 1,000 foot buffer from freeways.

However, the project would place the retail, common areas, and parking uses on the ground floors and residential units would be located above. The project design maximizes the buffer between potential TAC sources and residential units and implements the recommended best practices. The project includes a number of benefits such as increased housing opportunities, preserving housing affordability and stability, balanced community benefits, providing better parking and mobility options including a TDM plan, and safer and healthier buildings. Thus, TAC impacts to proposed on-site receptors would be less than significant.

As described above, cumulative impacts related to residential cancer risk, $PM_{2.5}$, chronic hazard, and acute hazard would be less than cumulatively considerable and within acceptable limits. As a result, the project would not have the potential to create a CO hotspot and impacts would be **less than significant.**

MM AQ-3.1 Off-Road Diesel-Powered Construction Equipment

All mobile diesel-powered off-road equipment operating on-site for more than two days and larger than 50 horsepower shall, at a minimum, meet U.S. Environmental Protection Agency (EPA) particulate matter emissions standards for Tier 4 engines or equivalent. Prior to the issuance of any demolition permits, the project applicant shall submit a construction operations plan to the Planner/Project Manager of the Planning Division of the Department Community and Economic Development, which includes specifications of the equipment to be used during construction and confirmation this requirement is met. Such equipment could include concrete/industrial saws, graders, scrapers, rollers, cranes, forklifts, generator sets, and air compressors.

The construction contractor may use other measures to minimize construction period Diesel Particulate Matter (DPM) emissions to reduce the estimated cancer risk below the thresholds. The use of equipment that includes CARB-certified Level 4 Diesel Particulate Filters or alternatively-fueled equipment (i.e., non-diesel), added exhaust devices, or a combination of these measures could meet this requirement. If any of these alternative measures are proposed, the construction operations plans must include specifications of the equipment to be used during construction prior to the issuance of any demolition permits. If any of these alternative measures are proposed, the plan shall be accompanied by a letter signed by a qualified air quality specialist, verifying the equipment included in the plan meets the standards set forth in this mitigation measure.

Impact AQ-4: The project could result in other emissions (such as those leading to odors adversely affecting a substantial number of people). This is a less than significant impact.

Construction

According to the BAAQMD, land uses associated with odor complaints typically include wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, and chemical plants. The project does not include any uses identified by the BAAQMD as being associated with odors.

Construction activities associated with the project may generate detectable odors from heavy duty equipment (i.e., diesel exhaust), as well as from architectural coatings and asphalt off-gassing. Odors generated from the referenced sources are common in the man-made environment and are not known to be substantially offensive to adjacent receptors. Any construction-related odors would be short-term in nature and cease upon project completion. As a result, impacts to existing adjacent land uses from construction-related odors would be short-term in duration and therefore would be **less than significant.**

6.5.5 Cumulative Impact Analysis

The cumulative setting for air quality includes the City and the Air Basin. Air Basin is designated as a nonattainment area for state standards of ozone, PM_{10}, and $PM_{2.5}$. The Air Basin is designated as a nonattainment area for federal standards of ozone and $PM_{2.5,}$ attainment and serious maintenance for federal PM_{10} standards, and is designated as unclassified or attainment for all other pollutants. Cumulative growth in population and vehicle use could inhibit efforts to improve regional air quality and attain the ambient air quality standards.

Impact AQ-5: The project could contribute to cumulatively considerable air quality impacts. This is a less than significant impact.

The BAAQMD CEQA Air Quality Guidelines do not include separate significance thresholds for cumulative operational emissions. However, with respect to regional air pollution, the development of the project would result in population growth that is consistent with ABAG projections. Therefore, the project would be consistent with the 2017 Clean Air Plan that uses ABAG population forecasts.

As described in Impact AQ-1 above, the project would also be consistent with the appropriate 2017 Clean Air Plan control measures, which are provided to reduce air quality emissions for the entire Bay Area region. Additionally, the discussion in Threshold AQ-2 and AQ-3 addresses cumulative impacts and demonstrates that the project would not exceed the applicable BAAQMD thresholds. The BAAQMD CEQA Air Quality Guidelines note that the nature of air emissions is largely a cumulative impact. As a result, no single project is sufficient in size by itself to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. Consistency with the 2017 Clean Air Plan control measures would ensure that the project would not cumulatively contribute to air quality impacts in the Basin. Therefore, impacts would be **less than significant.**

6.6 References

Bay Area Air Quality Management District, Planning Healthy Places, 2016.

Bay Area Air Quality Management District, CEQA Air Quality Guidelines, 2017.

Bay Area Air Quality Management District, Clean Air Plan, 2017.

Bay Area Air Quality Management District, Air Quality Standards and Attainment Status, 2017.

Bay Area Air Quality Management District, Current Rules, 2017.

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City of East Palo Alto, Climate Action Plan, 2014.

City of East Palo Alto, *General Plan,* August 2016.

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United States Environmental Protection Agency (U.S. EPA). 2013. Policy Assessment for the Review of the Lead National Ambient Air Quality Standards. Available at: http://yosemite.epa.gov/sab/sabproduct.nsf/46963ceebabd621905256cae0053d5c6/ab1476f97f51b242852578b90065bb04!OpenDocument

United States Environmental Protection Agency (U.S. EPA). 2015. 40 CFR Parts 50, 51, 52, 53 and 58. RIN 2060-AP38. National Ambient Air Quality Standards for Ozone. Available online: http://www3.epa.gov/airquality/ozonepollution/pdfs/20151001fr.pdf. October

7 Biological Resources

7.1 Introduction

This section identifies local biological resources within and near the project site and describes potential effects on those resources that could be caused by implementation of the project. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes potential environmental impacts, and recommends measures to reduce or avoid adverse impacts from project construction and operation, where warranted.

The following background documents were prepared for and/or referenced for this chapter:

- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Parks, Open Space and Conservation Element, 2017
- City of East Palo Alto, Draft Environmental Impact Report City of East Palo Alto General Plan Update, 2016

7.2 Scoping Issues Addressed

During the Notice of Preparation (NOP) public comment and scoping period for the EIR, comments were received regarding biological resources. Comments received were specifically concerned with potential effects from increased artificial lighting to wildlife species, as well as impacts from construction activities relative to nesting and migratory birds. These issues have been considered and addressed in this chapter.

7.3 Environmental Setting

7.3.1 City-Wide Setting

The City of East Palo Alto and its surrounding area include many important natural features and is bordered on three sides by open space areas that provide habitat for sensitive plant and animal species. These open space areas and wildlife refuge areas include San Francisquito Creek, the Baylands Nature Preserve, Cooley Landing, and the Don Edwards San Francisco Bay National Wildlife Refuge.

Natural Communities and Habitats

The City contains the following eight general natural communities/habitat types based on dominant plant species and land uses: northern coastal salt marsh, non-tidal/diked salt marsh, brackish marsh, freshwater marsh, open water, non-native annual grassland/ruderal, riparian woodland, and urban/developed (City of East Palo Alto, 2017). The project is located in an urban/developed area where various ornamental plant species, as well as some native species, are found within the urban setting. Urban/developed habitats typically support a suite of relatively common wildlife species that are tolerant of periodic human disturbance. Structures in the City may provide potential nesting and roosting sites for some species of birds and bats. Birds and bats may roost in the Highway 101 bridge over San Francisquito Creek and other structures, unoccupied buildings and large trees in the City.

Invasive Species

The City's natural communities face threats from a number of invasive plant and animal species. The highest impact threats come from plants like English ivy, cordgrass, Himalayan blackberry, sweet fennel, and yellow star thistle, and animals including several clam, mussel, and snail species, as well as feral cats and Norway rats. The key concern about invasive species is that they compete with and can potentially crowd out or otherwise harm or reduce the presence of native and protected species.

East Palo Alto's Urban Forest Resources

The community urban forest in East Palo Alto is overall in fair to good condition. According to an inventory conducted in 2013, the urban forest in the City is made up of a total of 5,475 City-owned trees and 255 different tree species (City of East Palo Alto, 2017). Around half of the trees examined in the City were shorter than 15 feet and less than six inches diameter at breast height (City of East Palo Alto, 2017). In the vicinity of the project area, the tree canopy is of moderate density, consisting almost entirely of mature, ornamental street trees and landscape plantings.

7.3.2 Special Status Plant and Animal Species

Areas adjacent to the San Francisco Bay contain important tidal marsh and tidal mudflats important to survival of several endangered and threatened species. Other threatened or species of concern are also present in the wetlands and open waters of the City. San Francisquito Creek is one of the few remaining natural creeks in the South Bay and supports one of the last runs of the endangered steelhead trout. The riparian woodland along the creek corridor protects the water quality of the creek and the wildlife within it.

Special Status Plant Species

The General Plan identified 84 special status plant species as potentially occurring within the City based on the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) lists. However, 83 of these species were rejected from further study because they were unlikely to occur in the City (City of East Palo Alto, 2017). The only special-status plant species to possibly occur within the City is Congdon's tarplant (*Centromadia parryi ssp. congdonii*) (City of East Palo Alto, 2017). Congdon's tarplant is listed as a rare plant by CNPS. This species is an annual herb that occurs in valley and foothill grasslands, particularly those with alkaline substrates, and in slumps or disturbed areas where water collects in lower elevation wetlands. The project site does not` support grassland habitat or conditions that that would support this species.

Special Status Wildlife Species

Based on Table 4.4-2 in the General Plan Update EIR several special status wildlife species were reviewed for their potential to occur in the City. Special status wildlife species known to occur in the City include the: California Ridgeway's Rail (*Rallus obsoletus*), Unarmored Threespine Stickleback (*Gasterosteus aculeatus*), Central California Coast steelhead (*Oncorhynchus mykiss*), Northern harrier (*Circus cyaneus*), San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), Alameda song sparrow (*Melospiza melodia pusillula*) and Salt Marsh Harvest Mouse.

Special status wildlife species that may be present in the City include: Western pond turtle (*Actinemys marmorata*), Bryant's savannah sparrow (*Passerculus sandw0ichensis alaudinus*), San Francisco duskyfooted woodrat (*Neotoma fuscipes annectens*), Salt marsh wandering shrew (*Sorex vagrans halicoetes*), White-tailed kite (*Elanus leucurus*), and Loggerhead shrike (*Lanius ludovicianus*).

Of the species listed, the potential for these species to occur in the immediate project area or project site are highly unlikely given the project site is in an urban/developed area and lacking any of the natural communities or habitat characteristics suitable to support them. The nearest suitable habitat for wildlife species to occur is riparian woodland located along the banks of San Francisquito Creek, which is approximately 0.15 mile south of the project site.

7.3.3 On-Site Trees

Biological resources on the project site are limited due to the fact that the site is nearly completed developed with structures and parking, with the primary resources being mature individual and stands of trees (e.g. Blue Oak, Ironwood, Kindred Spirit Oak, Marina Strawberry Tree, Red Push Pistache, White Ash). The vegetation on the site is comprised of grasses and groundcover, planted native trees and ornamental plantings. Up to 21 trees are proposed for removal, while 40 trees would be preserved on site.

The water tank site at 375 Donohoe Street contains a mix of native and non-native ornamental trees including redwoods, oaks juniper and orange. There are approximately ten trees at this location located around the perimeter of the parcels. Approximately five trees may need to be removed in this location to accommodate tank construction and related improvements, including a redwood, a coast live oak and ornamentals.

In general, the habitat value of the project site is very degraded by dense human habitation, the close (adjacent) proximity of US 101, lack of parks or any consolidated open areas, and existing lighting sources from existing structures, streetlights and automobiles.

7.4 Applicable Regulations, Plans, and Standards

7.4.1 Federal

Federal Endangered Species Act (FESA) and Marine Mammal Protection Act

The U. S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NOAA) administer the FESA of 1973 and Title 16 (implementing regulations) of the U.S. Code of Regulations (CFT) 17.1 et seq. USFWS administers the FESA for wildlife and most freshwater aquatic species; NOAA Fisheries administers the FESA for anadromous fish and marine species. FESA designates and provides protection for threatened and endangered plants and animals and their critical habitat. Section 9 of FESA prohibits the “take” of federally listed wildlife species; however, the “incidental take” of federally listed species may be permitted during the course of an otherwise lawful activity through provisions included in Section 7 or Section 10 of the Act. Section 7 of the Act applies to projects where a federal agency is involved by issuing a permit, funding, or conducting the study. Under Section 7, the federal agency involved with the study consults with the USFWS, which authorizes limited incidental take of the affected species in the form of a Biological Opinion letter, with specific terms and conditions to avoid and minimize the effects on the species. Section 10 instruments, such as a Habitat Conservation Plan, may be developed and issued for take of a federally listed species for all non-federal projects (e.g., state and local governments, private owners).

Migratory Bird Treaty Act

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both Federal and State regulations. The federal Migratory Bird Treaty Act (MBTA) prohibits killing, possessing, or trading in

migratory birds except in accordance with regulations prescribed by the Secretary. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Regulated Habitats

Areas meeting the regulatory definition of "Waters of the U.S." (Jurisdictional Waters) are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U.S.," tributaries of waters otherwise defined as "Waters of the U.S.," the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to "Waters of the U.S." (33 CFR, Part 328, Section 328.3).

Construction activities within jurisdictional waters are regulated by USACE. The placement of fill into such waters must comply with permit requirements of USACE. No USACE permit would be effective in the absence of State water quality certification pursuant to Section 401 of the Clean Water Act. As a part of the permit process USACE works directly with USFWS to assess project impacts on biological resources. The project site is not within any jurisdictional waters regulated by USACE.

7.4.2 State

California Endangered Species Act

Provisions of California Endangered Species Act (CESA) protect State-listed Threatened and Endangered species. CDFW regulates activities that may result in "take" of individuals ("take" means "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Department of Fish & Wildlife (CDFW) Code. Additionally, the CDFW Code contains lists of vertebrate species designated as "fully protected" (§§ 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], 5515 [fish]). Such species may not be taken or possessed.

In addition to federal and State-listed species, CDFW also has produced a list of Species of Special Concern to serve as a "watch list." Species on this list are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected under the CDFG Code. Section 3503.5 states it is "unlawful to take, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) 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." Construction-related disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by CDFW. Under Sections 3503 and 3503.5 of the State Fish and Wildlife Code, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to CDFG Code Section 3800 are prohibited.

CDFW Natural Communities

CDFW recognizes sensitive vegetation communities include: a) areas of special concern to resource agencies, b) areas protected under the California Environmental Quality Act (CEQA), c) areas designated as sensitive natural communities by California Department of Fish and Wildlife (CDFW), d) areas outlined in Section 1600 of the California Fish and Game Code, e) areas regulated under Section 404 of the federal Clean Water Act (CWA), and f) areas protected under local regulations and policies. The CDFW tracks sensitive vegetation communities that are considered rare (CDFG 2010). Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled. If a vegetation alliance is ranked as S4 or S5, these alliances are generally considered common enough to not be of concern; however, it does not mean that certain associations contained within them are not rare (CDFG, 2007 and 2010). The project site is in an urban/developed area and not located within any natural communities.

California Fish and Game Code for Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code list animals that are fully protected species and may not be taken or possessed at any time. Permits or licenses to take any fully protected species are issued only for very limited types of activities such as research. Section 3503, 3503.5 and 3513 of the Code protect resident, migratory non-game, and birds-of-prey. According to Table 4.4-2 of the City General Plan Update EIR, the only fully protected species that may be present long the eastern edge of the City is the White-tailed kite. The project site is not within this area of the City.

California State Species of Concern

CDFW has designated certain vertebrate species, subspecies, or distinct population of an animal native to California as Species of Special Concern. CDFW's criteria for this category is that a species satisfies one or more of the following criteria: 1) is extirpated from the State or, in the case of birds, is extirpated in its primary season or breeding role; 2) is listed as Federally, but not State, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed; 3) is experiencing, or formerly experienced, serious (noncyclical) population declines or range restrictions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; and/or 4) has naturally small populations exhibiting high susceptibility to risk from and factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status (CDFW, 2020).

Native Plant Protection Act

The Legislature formally recognized the plight of rare and endangered plants in 1977 with the passage of the Native Plant Protection Act (NPPA). The NPPA directs the CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants.

Regulated Habitats

The State Water Resources Control Board is the State agency (together with the Regional Water Quality Control Boards [RWQCB]) charged with implementing water quality certification in California. The proposed project falls under the jurisdiction of the San Francisco RWQCB.

CDFW potentially extends the definition of stream to include "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife" (CDFG, 1994). Such areas of the proposed project were determined using methodology described in A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607 (CDFG, 1994).

Activities that result in the diversion or obstruction of the natural flow of a stream; or which substantially change its bed, channel, or bank; or which utilize any materials (including vegetation) from the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFW.

7.4.3 Local

Vista 2035 East Palo Alto General Plan

General plan policies relative to biological and natural resources are identified below. Relevant General Plan Policies that directly address reducing and avoiding biological impacts include the following:

Parks, Open Space and Conservation Element

Goal 4: Protect and preserve the City's natural habitat and wildlife.

- Policy 4.2: Human activities. Protect wildlife from adverse impacts caused by human activities.
- Policy 4.5: Light and Glare. Light and glare. Review major public and private development projects to ensure that the spillover effects of light and glare from new exterior lighting is minimized. Where feasible, require lighting fixtures to be directed downward and equipped with cut-off lenses. For development near sensitive sites, particularly undeveloped Bayfront areas, require submittal of photometric studies to demonstrate minimization of light spill-over. Ensure that all implemented lighting measures adhere to the regulations outlined in Title 24.
- Policy 4.7: Native Species. Encourage or require the use of native and/or non-invasive plants in privately built landscaping or new open spaces near natural open space areas, in order to provide foraging, nesting, breeding and migratory habitat for wildlife. Discourage herbicides and fertilizers.
- Policy 4.8: Inter-agency coordination. Coordinate with other public agencies such as the San Francisquito Creek Joint Powers Authority, Army Corps of Engineers, National Fish and Wildlife Service, and other similar entities on construction or development activity occurring within or adjacent to the City.

Goal 6: Preserve and expand the urban forest on both public and private property.

- Policy 6.1: Urban forestry. Expand the urban forest in East Palo Alto by adding street trees and landscaping throughout the City.
- Policy 6.2: New tree planting. Prioritize the planting of new trees on sites designated as sensitive receptors (e.g. schools, health centers) or that are in close proximity to sources of air pollution such as freeways and heavily traveled road corridors.

Land Use and Urban Design

- Policy 9.9: Tree planting. Encourage the planting and maintenance of appropriate tree species that shade the sidewalk, improve the pedestrian experience throughout the City, and enhance flood protection. Street trees should be selected that do not damage sidewalks, or block views of commercial buildings.

Westside Area Plan

The Westside Area Plan is a separate chapter of the Vision 2035 General Plan, providing more detailed goals and policies for the Westside area of East Palo Alto. There are no specific policies related to biological resources in the Westside Area Plan.

East Palo Alto Municipal Code

Chapter 18.28.40 - Tree Removal Permit

Chapter 18.28040 of the East Palo Alto Zoning Ordinance is the City's tree ordinance. The ordinance regulates removal, replacement and maintenance of protected trees in the City. A protected tree is defined as any of the following:

- Any tree having a main stem or trunk which measures forty inches or greater in circumference at a height of twenty-four inches above grade;
- Any tree within a public street or public right-of-way, regardless of size;
- Any tree that existed at the time of an approval granted under the city's subdivision or zoning ordinance and required to be preserved as part of such approval;
- Any tree required to be planted as a condition of any development approval granted by the city; and
- Any tree required to be planted as a replacement for an unlawfully removed tree.

Applicants for projects that involve removal of protected trees are required to obtain a Tree Removal Permit as part of the Universal Planning application and approval process.

7.5 Environmental Impacts and Mitigation Measures

7.5.1 Significance Criteria

The following significance criteria for biological resources were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts related to the proposed project.

An impact of the proposed project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulation, or by the CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.

- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to marshes, vernal pools, etc.) through direct removal, filling, hydrological interruption, or other means.
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP.

7.5.2 Summary of No and/or Beneficial Impacts

Special Status Species

The project site is fully developed with residential uses. Based on the lists of locally occurring special status or otherwise protected species in the City, the site does not contain the habitat types to support these species. Construction and operation would have no impact.

Wetlands and Riparian Areas

The project contains no riparian areas, sensitive natural communities, or state or federally protected wetlands. The nearest riparian area is riparian woodland located along the banks of San Francisquito Creek, approximately 0.15 mile south of the project site. Therefore, there will be no direct or indirect impact to these resources from the project.

Habitat Conservation Plan/Natural Communities Conservation Plan

The project site does not support riparian or other sensitive natural communities as defined by the CDFW or USFWS, and the project will not directly or indirectly affect federally protected wetlands. Habitat Conservation Plans (HCPs) and Natural Communities Conservation Plans (NCCPs) developed in the vicinity of the City include the Don Edwards San Francisco Bay National Wildlife Refuge Community Conservation Plan and the Santa Clara Valley Habitat Conservation Plan and Natural Communities Conservation Plan. There are also no adopted HCPs or NCCPs applicable to the project site. For these reasons, these topics are not discussed further in this chapter.

7.5.3 Impacts of the Proposed Project

Impact BIO-1: The project could interfere with the movement of native resident or migratory (avian) wildlife and/or associated nursery sites. This is a less than significant impact with mitigation incorporated.

Construction

Nesting birds could use mature trees and isolated stands of vegetation on or near the site for nesting or foraging. The project will largely clear the existing site (including demolition of existing structures and removal of approximately 26 existing trees, including the water tank parcel). While 45 trees would be preserved, site disturbance from construction activities would be intensive and could interfere with the movement of migratory wildlife (avian) species using the site.

The removal of trees on site could reduce or eliminate pockets of forage and cover for native nesting and/or migrating bird species known to be present in the City. Given that the project would include the removal of trees currently located on the project site, there is a potential nesting birds could be impacted during these activities. This impact would be reduced to a **less than significant level** with the implementation of MM BIO-1.1.

MM BIO-1.1 Preconstruction Bird Surveys

The applicant shall schedule all on-site tree removal, demolition and grading to occur outside of the nesting and breeding season (February 1 through September 1) of any given year to avoid nest disturbance. If this schedule is not practical or feasible, the applicant shall hire a qualified biologist to conduct preconstruction nesting bird surveys of the site plus a 100-foot perimeter around the site, no more than seven days prior to removal of trees and grading. If nesting birds are observed, the biologist will establish a buffer zone where no tree removal or grading will occur until the biologist confirms that all chicks have fledged and are no longer reliant on the nest. The buffer zone may vary from 50 to 250 feet, depending upon the species of bird and exposure of the nest site.

Operation

Once the project is constructed and operational, the residential uses would not be expected to adversely affect native or migratory (avian) wildlife species, or impact native wildlife nursery (nesting) sites if they become reestablished. Normal operational activities of the new structures would not be substantially different from existing residential uses in terms of urban activity in an urban setting. Replanted trees, the community garden and park area would provide new opportunities for nesting and foraging once these areas are established.

New sources or more intensive sources of disturbance such as increased lighting could occur during operation of the project due to the intensification of land use and more vertical construction proposed. However, the project site is in an existing, densely populated urbanized/developed area that has similar existing residential uses and lighting sources.

As discussed above, the nearest sensitive habitat for wildlife species to occur is 0.15 mile south of the project site. Per correspondence received from CDFW on May 15, 2020, CDFW recommends eliminating non-essential artificial lighting from the project because night lighting can disrupt circadian rhythms of many wildlife species. CDFW recommends artificial lighting be shielded, cast downward, and prevented from spilling over onto other properties or upwards into the night sky if artificial lighting is necessary. As discussed in Chapter 5, Aesthetics, all lighting proposed by the project must be consistent with the City's development code for the uses proposed. Per Chapter 18.22.050 of the City's development code, outdoor lighting must be designed to limit light pollution, reduce sky glow, and help protect the natural environment from adverse effects of night lighting to the greatest extent possible. Outdoor lighting proposed by the project would be limited to pedestrian level bollards, pole lighting and custom lighting to allow for safety, security and way finding. Nighttime lighting would also be expected to emanate from individual residential interiors at low levels. Compliance with the City development code and MM AES-2.1 would serve reduce the potential for significant impacts on nearby wildlife by ensuring light fixtures are shielded, cast downward and that glass surfaces incorporate anti-glare surfaces. With these measures potential impacts would be reduced to a **less than significant** level.

Conclusion

Avoidance and preconstruction surveys are one of the most effective methods of avoiding impacts to bird species. By avoiding nesting season and ensuring birds are not present during construction, impacts can be fully mitigated.

Impact BIO-2: The removal of approximately 26 trees for construction for the project could conflict with local policies and ordinances regarding tree preservation. This is a less than significant impact.

Construction and Operation

Direct impacts to trees occur through removal. Indirect impacts to trees include disturbance to trees from grading and construction activities that may affect trees or their roots directly from mechanical damage or indirectly due to alterations in soil structure, drainage, microbiology, etc., and tree removal for clearance of land for construction and grading.

As mentioned above, the project would remove approximately 26 trees (including the water tank site), while preserving 45 trees on site. Consistent with the City General Plan Policies 4.6, 6.1, 6.2, and 9.9, the project would be required to plant native and non-invasive plants in privately built landscaping or new open spaces near natural open space areas and discourage the use of herbicides and fertilizers, and plant street trees on Euclid Avenue, West Bayshore Road, and Manhattan Avenue. In addition, the project would be required to comply with Chapter 18.28040 of the East Palo Alto Zoning Ordinance to obtain a Tree Removal Permit for removal of 21 protected trees. Compliance with the applicable General Plan policies and Chapter 18.28040 of the East Palo Alto Zoning Ordinance would effectively mitigate tree removal impacts to a **less than significant** level and maintain the City's urban forest resources.

7.5.4 Cumulative Impact Analysis

Impact BIO-3: The project could contribute to cumulatively considerable effects on biological resources. This is a less than significant impact.

The geographic extent for the analysis of cumulative impacts to other biological resources include the project site and other development projects as listed in Chapter 4. As stated above, the project site is in an urbanized/developed area of the City. The project could incrementally increase permanent light sources in the immediate project area and contribute the nighttime light environment that affects the natural behaviors of wildlife. The nearest project expected to contribute additional nighttime lighting is the University Circle proposal immediately to the south. As explained in this chapter, however, lighting sources in the City are regulated by existing development standards designed to maize the effects of lighting from new development city wide. Implementation of these regulations on a project-specific basis will also serve to mitigate any cumulative effect lighting may have on wildlife. For this reason, cumulative effects to these resources are less than significant.

Regarding the effects of tree removal, as stated above, the proposed project would result in a loss of approximately 26 trees for construction. Tree removal would have localized impacts but would be mitigated by tree replanting or otherwise mitigated through accepted methods such as payment of in-lieu fees pursuant to Chapter 18.28040 of the East Palo Alto Zoning Ordinance. As such, cumulative

impacts to tree removal would be **less than significant** because all cumulative projects will also be subject to these regulations, resulting in not net cumulative loss of trees or urban forest.

7.6 References

California Department of Fish and Wildlife. 2020. *Species of Special Concern*. Accessed at: https://www.wildlife.ca.gov/Conservation/SSC. Accessed on June 25, 2020.

City of East Palo Alto. 2017. *Vista 2035 East Palo Alto General Plan*.

City of East Palo Alto. 2016. *Draft Environmental Impact Report City of East Palo Alto General Plan Update*.

Dark Sky Association. 2020. *Light Pollution Effects on Wildlife and Ecosystems*. Accessed on July 31, 2020.

8 Cultural and Tribal Cultural Resources

8.1 Introduction

This section describes the project's potential effects on cultural and tribal cultural resources that could be caused by implementation of the proposed project. Cultural resources include archaeological and historic resources. Tribal cultural resources include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe. The information in this chapter identifies existing cultural and tribal cultural resources and environmental conditions in the area, identifies and analyzes environmental impacts based on accepted thresholds of significance, and recommends measures to reduce or avoid adverse impacts anticipated from project construction, operation, and site disturbance.

This section is based upon, and summarizes, the following cultural and historic resource reports:

- Page & Turnbull, 2032, 2036, 2040, 2043 Euclid Avenue, East Palo Alto – Preliminary Historic Assessment Memorandum. May 2020. (**Appendix C**)
- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Parks, Open Space, and Conservation Element, 2017
- City of East Palo Alto, Final Environmental Impact Report City of East Palo Alto General Plan Update, 2016
- Northwest Information Center, Records Search Results for the Proposed Woodland Park Euclid Improvements Project, 2020

These reports and their findings are summarized in this section, and care has been taken to protect confidential or culturally sensitive material known to be present in the general vicinity of the project site. The City of East Palo Alto has also initiated consultation with local tribal representatives consistent with the requirements of AB 52 and SB 18, as discussed further below.

8.2 Scoping Issues Addressed

During the Notice of Preparation (NOP) public comment and scoping period for the proposed project, a letter was received from the Native American Heritage Commission (NAHC). Comments contained in the letter from NAHC generally related to requirements of AB 52 and the recommended steps for completing AB 52 consultation, a summary of SB 18 requirements and recommended steps, recommendations that a California Historical Resources Information Search (CHRIS) and Sacred Lands File search be completed, and example mitigation measures to avoid impacts to tribal cultural resources.

8.3 Cultural and Tribal Cultural Resources Methodology

8.3.1 Archival and Literature Search

To establish existing conditions, an archival research study was conducted from the following resources. The research was undertaken to determine if any known archaeological, historic resources, and/or tribal cultural resources were reported in or around the project area.

Historic Resource Repositories

The historic resources evaluation conducted for this EIR includes an evaluation of eligibility for listing of specific properties in the National Register of Historic Places and the California Register of Historical Resources. Page & Turnbull primarily consulted the following resources for historic research: historic aerial photographs, the *City of East Palo Alto Historic Resources Inventory Report* (February 1994), and online repositories (e.g. San Mateo County Office of Assessor online portals, Ancestry.com, Newspapers.com, California Digital Newspaper Collection, David Rumsey Map Collection, and the UC Santa Barbara Library Aerial Photography Collection). All site photographs used in this report were taken by Page & Turnbull during a site visit on May 7, 2020, unless otherwise noted.

Northwest Information Center Records Search

On July 10, 2020, a records search was conducted by the Northwest Information Center (NWIC) for the project area. The purpose of this review was to access existing cultural resource survey reports, archaeological site records, and historic maps to evaluate whether any previously documented prehistoric or historic archaeological sites, architectural resources, cultural landscapes, or other documented resources exist within or near the project site. The current inventories of the State Office of Historic Preservation Built Environment Resources Directory (OHP BERD), National Register of Historic Places, the California Register of Historical Resources, the California Historical Landmarks list, and the California Points of Historical Interest list were reviewed to determine the existence of previously documented resources that may be eligible for inclusion.

In addition to the records searches, historic aerial photographs of the project site were reviewed to determine if previous structures or potentially significant historic resources may be present at the project location. Topographic and geologic maps were also reviewed to understand the existing terrain and natural resources within the area.

8.3.2 Native American Consultation and Participation

Public Resources Code Sections 21080.3.1 and 21084.3(c), also referred to as Assembly Bill 52 (AB 52) requires CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015.

On June 15, 2020, Kimley-Horn, contacted the NAHC to request a review of their Sacred Lands File for any Tribal Cultural Resources (TCRs) that may be adversely affected by the proposed project. On June 15, 2020, the NAHC responded to a written request from Kimley-Horn to review their Sacred Lands Files. Their response included a list of Native American tribes affiliated with the project area who may have specific information regarding areas of potential impact within the Area of Potential Effect (APE), or who otherwise may be able to recommend others with specific knowledge.

The NAHC also indicated that the results from the Sacred Lands File search were positive for sites located within the APE and recommended contacting the following tribes:

- Amah Mutsun Tribal Band of Mission San Juan Bautista, Irenne Zwierlein

- Costanoan Rumsen Carmel Tribe, Tony Cerda
- Indian Canyon Mutsun Band of Costanoan, Ann Marie Sayers
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, Monica Arellano
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, Charlene Nijmeh
- The Ohlone Indian Tribe, Andrew Galvan

On July 7, 2020 the City of East Palo Alto transmitted letters to the recommended tribal organizations and individuals identified by NAHC, requesting information or comments regarding Native American cultural resources in the vicinity of the proposed project property. No tribes have yet requested AB 52 consultation with the City.

8.4 Environmental Setting

The setting information below provides a broad historical context of the region and project site. This information is sourced from cultural and historic reports prepared for the project. It is important to note that while the existing project area consists of 14 individual properties with 161 apartment units, the Historic Assessment Memorandum prepared by Page & Turnbull primarily analyzed four specific properties (e.g. 2032 Euclid Avenue, 2036 Euclid Avenue, 2040 Euclid Avenue, and 2043 Euclid Avenue) as these properties are significantly older and distinguishable from the other modern era apartment buildings on the site .

8.4.1 Historic Setting and Resources

Regional History

The City of East Palo Alto, originally named Ravenswood, was part of unincorporated San Mateo County until the City incorporated in 1983. The City is one of the most recently formed cities in the entire Bay Area. The current composition of the City is by-and-large of the twentieth century, Euro-American settlement dates back to the mid-nineteenth century (City of East Palo Alto, 2017). Various tribes of Costanoan Native Americans – also known as the “Ohlone” – were the first known human inhabitants in the San Francisco Bay Area. The Ohlone tribe that made its home in the City is known as the Puichon.

The area comprising the future city was primarily an agricultural community until after World War II when the growth of residential suburbanization accelerated. Second to its residential core, the City has also been defined by its proximity to Highway 101, which was constructed in 1932 (City of East Palo Alto, 2017). While Highway 101 linked the City to major cities throughout the San Francisco Bay Area, it also created circulation problems for East Palo Alto. The highway created a physical border that contributed to an emerging socio-economic disparity between Palo Alto and East Palo Alto in the mid-twentieth century.

Project Site History

The existing properties at 2032, 2036, 2040, and 2043 Euclid Avenue – the oldest structures on the site - were constructed on the site between 1922 and 1938. The existing properties at 2032 and 2036 Euclid Avenue are one-story, single-family residences constructed in Vernacular styles. Alterations to the buildings on these properties occurred in the 1950s. The existing property at 2040 Euclid Avenue was

constructed in a modest expression of the Craftsman style. The most recent alteration to the building on this property occurred in 1999.

The existing property on 2043 Euclid Avenue was constructed as a two-story, single-family residence in the Tudor Revival style. The property was not a corner lot at the time, since East O'Keefe Street was not yet platted. In 1949, a three-car garage with an apartment unit was constructed on the property; this garage is likely the rear building that is now on a separate legal parcel (420 E. O'Keefe Street, APN 063-281-110). Alterations to the building on this property include an exterior wood staircase to the second story of the building.

All four properties were purchased by the owners of Woodland Park Communities in 2016 and are now managed by that company along with several nearby apartment buildings. The properties are all rental units, except for 2043 Euclid Avenue, which is used as a leasing office.

The remainder of the structures on the project site were constructed specifically as rental housing in the 1960s and are part of the larger Woodland Park community on the west side of East Palo Alto. While these properties are over 50 years old, they do not have distinguishable elements that would categorize them as historic. For these reasons, only the above mentioned four properties are analyzed in detail in this chapter.

Existing Historic Status

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 buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level.

The four subject properties on the project site are not listed in the National Register of Historic Places.

California Register of Historical Resources

The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. Resources can 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. Properties can also be nominated to the California Register by local governments, private organizations, or citizens. The evaluative criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places.

The four subject properties on the project site are not listed in the California Register of Historical Resources.

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 (CHRS Code) of "1" to "7" to establish their historical significance in relation to the National Register or California Register. Properties with a Status Code of "1" or "2" are either eligible for listing in the California Register or the National Register, or are already

listed in one or both of the 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 Status Code of "5" have typically been determined to be locally significant or to have contextual importance. Properties with a Status Code of "6" are not eligible for listing in either register. Finally, a Status Code of "7" means that the resource has not been evaluated for the National Register or the California Register, or needs reevaluation.

The four subject properties on the project site have not been formally submitted to the California Office of Historic Preservation, and they are not listed in the California Historical Resource Information System's database (most updated version from 2012) with a CHRIS Code.

City of East Palo Alto Local Register of Historic Resources

In the early 1990s, a survey of East Palo Alto was conducted by the San Mateo County Historical Association and San Mateo County Historic Resources Advisory Board with survey coordinators Alan Michelson and Katherine Solomonson (Page & Turnbull, 2020). The results of the survey, which identified 52 properties as historic resources, were presented in a report, "City of East Palo Alto Historic Resources Inventory Report" (February 1994). The report also included a historic context statement for important development themes and architectural styles in East Palo Alto, as well as State of California Department of Parks and Recreation (DPR) survey forms for a number of properties. In January 2015, the East Palo Alto City Council adopted 37 existing and surviving resources in the "City of East Palo Alto Historic Resources Report" (February 1994) as the City of East Palo Alto's "Local Register of Historic Resources." The City does not have a historic preservation ordinance that outlines eligibility requirements for properties that might be added to the local register in the future.

None of the four subject properties were surveyed or identified as historic resources in the "City of East Palo Alto Historic Resources Inventory Report," and as such, none of the four properties are currently listed on the East Palo Alto Historic Resources Inventory.

8.4.2 Archaeological Setting

The City has been home to people long before European settlement of California. The City is within an area occupied by the Costanoan, or Ohlone, group of Native Americans. Native American archaeological sites in this area of San Mateo County tend to be situated near the historic margin of Bay tidal marshland and along creeks that drain upland terrain bordering the Bayshore plain (City of East Palo Alto, 2017).

The City has had one major known archaeological site in the University Village area during development in the early 1950s. The Euclid Improvements project site is not within the University Village area, approximately 0.7-mile northeast of the project site.

Much of the City has been subject to ground disturbance by previous development, which could have uncovered and/or destroyed archaeological resources over time. Given the environmental sensitivity of the City's setting, there is a moderate to high possibility of encountering unrecorded archaeological resources, particularly if ground disturbance extends to bay mud deposits beneath areas of artificial fill (City of East Palo Alto, 2017).

The records search conducted by NWIC revealed a moderate potential for unrecorded historic-period archaeological resources to be within the project area given one or more of the buildings in the project area date back as early as 1943.

8.4.3 Tribal Cultural Resources

Native American resources in the project area have been found in areas marginal to the San Francisco Bayshore and inland near intermittent and perennial watercourses (NWIC, 2020). The project area is located in alluvial valley soils approximately one mile from the current San Francisco Bayshore and approximately 230 meters north of San Francisquito Creek. Given the similarity of these environmental factors and ethnographic sensitivity of the area, there is a moderate to high potential for unrecorded Native American resources to be within the project area.

8.5 Applicable Regulations, Plans, and Standards

8.5.1 Federal

National Register of Historic Places Eligibility

The National Historic Preservation Act of 1966 (as amended through 2000) authorizes the National Register of Historic Places (NRHP), a program for the preservation of historic properties ("cultural resources") throughout the Nation. The eligibility of a resource for NRHP listing is determined by evaluating the resource using criteria defined in 36 CFR 60.4 as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, association, and:

- That are associated with events that have made a significant contribution to the broad patterns of our history;
- That are associated with the lives of persons significant in our past;
- That embody the distinctive characteristics of a type, period, or method of construction;
- 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,
- That have yielded, or may be likely to yield, information important to prehistory or history.

Unless a site is of exceptional importance, it is not eligible for listing in the NRHP until 50 years after it was constructed.

All properties change over time. Therefore, it is not necessary for a property to retain all its historic physical features or characteristics in order to be eligible for listing on the NRHP. The property must, however, retain enough integrity to enable it to convey its historic identity; in other words, to be recognizable to a historical contemporary. The National Register recognizes seven aspects or qualities that, in various combinations, define integrity:

- Location – the place where the historic property was constructed or the place where the historic event occurred.

- Design – the combination of elements that create the form, plan, space, structure, and style of a property.
- Setting – the physical environment of a historic property.
- Materials – the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- Workmanship – the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- Feeling – a property's expression of the aesthetic or historic sense of a particular period of time.
- Association – the direct link between an important historic event or person and a historic property (National Park Service, 1990).

To retain historic integrity a property will always possess several, and usually most, of these aspects. In order to properly assess integrity, however, significance (why, where, and when a property is important) must first be fully established. Therefore, the issues of significance and integrity must always be considered together when evaluating a historic property.

8.5.2 State

CEQA, Archaeological Resources

CEQA and the CEQA Guidelines contain specific standards for determining the significance of impacts to archaeological sites (PRC §21083.2; 14 CCR §15064.5(c)). If the lead agency determines that the project may have a significant effect on unique archaeological resources, the EIR must address those archaeological resources (PRC §21083.2(a)). A "unique archaeological resource" is defined as an "archaeological artifact, object, or site" that, without merely adding to the current body of knowledge:

- Contains information needed to answer important scientific research questions and in which there is a demonstrable public interest;
- Has a special or particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person. (PRC §21083.2(g)).

Under CEQA, significant impacts on non-unique archaeological resources need not be addressed in an EIR. (PRC §21083.2(a), (h)).

The limitations in PRC §21083.2 relating to unique archaeological resources do not apply to archaeological sites that qualify as "historical resources." (PRC §21083.2(l)). If a lead agency finds that an archaeological site is a historical resource, impact assessment is governed by PRC §21084.1, which provides standards for identification of historical resources (14 CCR §15064.5(c)(2). See §§13.58, 20.94-20.98). The CEQA Guidelines also provide that public agencies should seek to avoid effects that could damage a "historical resource of an archaeological nature" when it is feasible to do so (14 CCR §15126.4(b)(3)).

Native American Historic Resource Protection Act; Archaeological, Paleontological, and Historical Sites; Native American Historical, Cultural, and Sacred Sites (Pub. Res. Code § 5097-5097.994)

Public Resources Code Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of Native American human remains on non-federal public lands. California Public Resources Code Section 5097.9 states that no public agency or private party on public property shall "interfere with the free expression or exercise of Native American Religion." The Code further states that:

> "No such agency or party [shall] cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine…except on a clear and convincing showing that the public interest and necessity so require."

Human Remains

Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the find or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

CEQA, Historic Resources

CEQA and the CEQA Guidelines contain specific standards for determining the significance of impacts on "historical resources" (PRC §21084.1, 14 CCR §15064.5). A resource listed in the California Register of Historical Resources, or determined by the State Historical Resources Commission to be eligible for listing in the Register, must be treated as an "historical resource" for purposes of CEQA. PRC §21084.1; 14 CCR §15064.5(a)(1). A resource designated as historically significant in a local register of historical resources, or identified as significant in an approved historical resources survey, is presumed to be significant. The presumption of significance may be overcome if the agency concludes, based on a preponderance of the evidence, that the site is not historically or culturally significant (PRC §21084.1; 14 CCR §15064.5(a)(2)).

A lead agency may also find that a site that does not meet any of these criteria should be treated as a historical resource under CEQA (PRC §21084.1; 14 CCR §15064.5(a)(4)). A lead agency may find that "any object, building, structure, site, area, place, record, or manuscript" is historically significant or significant in the "cultural annals of California" provided that its determination is "supported by substantial evidence in light of the whole record" (14 CCR §15064.5(a)(3)). The guidelines also note that a resource ordinarily should be considered historically significant if it meets the criteria for listing on the California Register of Historical Resources (14 CCR §15064.5(a)(3)).

California Register of Historical Resources

In order to be determined eligible for listing in the California Register of Historical Resources (CRHR), a property must be significant at the local, State, or national level under one or more of the following four criteria as defined in Public Resources Code 5024.1 and CEQA Guideline 15064.5(a).

- It is associated with events or patterns of events that have made a significant contribution to the broad patterns of the history and cultural heritage of California and the United States.
- It is associated with the lives of persons important to the nation or to California's past.
- It 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.
- It has yielded, or may be likely to yield, information important to the prehistory or history of the state and the nation.

In addition to meeting one or more of the above criteria, a significant property must also retain integrity. Properties eligible for listing in the CRHR must retain enough of their historic character to convey the reason(s) for their significance. Integrity is judged in relation to location, design, setting, materials, workmanship, feeling, and association.

CEQA defines a substantial adverse change in the significance of a historical resource as a significant effect on the environment (PRC §21084.1; 14 CCR §15064.5(b)). A substantial adverse change means demolition, destruction, relocation, or alteration of the resource or its immediate surroundings resulting in the significance of the resource being materially impaired (14 CCR §15064.5(b)(1)). The significance of a resource is materially impaired when the physical characteristics that convey its historical significance and that justify its designation as a historical resource are demolished or materially altered in an adverse manner (14 CCR §15064.5(b)(2)). Construction of a project in the vicinity of historical structures that does not damage or materially alter any of them is not a substantial adverse change in the significance of a historical resource. *Eureka Citizens for Responsible Gov't v City of Eureka* (2007) 147 CA4th 357, 375.

California Historical Building Code, California Code of Regulations, Title 24, Part 8

The California Historical Building Code, defined in Sections 18950 to 18961 of Division 13, Part 2.7 of the Health and Safety Code, provides regulations and standards for the rehabilitation, preservation, restoration (including related reconstruction) or relocation of historical buildings or structures deemed by any level of government as having importance to the history, architecture, or culture of an area.

8.5.3 Local

Vista 2035 East Palo Alto General Plan

General plan policies relative to cultural, historical, archaeological, and tribal cultural resources are identified below. Relevant General Plan Policies that directly address reducing and avoiding cultural, historical, archeological, and tribal cultural resources impacts include the following:

Parks, Open Space, and Conservation

Goal 9: Protect historic, natural, mineral, and cultural resources.

- Policy 9.1: Archaeology, paleontology, and natural resources. Protect areas of important archaeological, paleontological, and natural resources.

- Policy 9.2: Historic buildings and sites. Protect and conserve buildings or sites of historic or cultural significance to contribute to the character of the community.
- Policy 9.7: Construction impacts. Suspend development activity when archaeological resources are discovered during construction. The project sponsor will be required to retain a qualified archaeologist to oversee the handling of resources in coordination with appropriate local and state agencies and organizations and local Native American representatives, as appropriate.

Westside Area Plan

The Westside Area Plan is a separate chapter of the Vision 2035 General Plan, providing more detailed goals and policies for the Westside area of East Palo Alto. There are no specific policies related to cultural, historical, archaeological, or tribal cultural resources in the Westside Area Plan.

8.6 Environmental Impacts and Mitigation Measures

8.6.1 Significance Criteria

The following significance criteria for cultural and tribal cultural resources were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of potential impacts related to this project.

An impact of the project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Cause a substantial adverse change in the significance of a historic resource pursuant to CEQA Guidelines 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource (CEQA Guideline 15064.5).
- Disturb any human remains, including those interred outside of formal cemeteries.
- 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:
    I. Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources. Code Section 5020.1(k), or
    II. 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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

To the extent any cultural resource is identified as relevant to the analysis, its significance as a cultural resource deposit and subsequently the significance of any impact is determined, in part, by whether or not that deposit can increase our knowledge of the past. Key determining factors, among others, are site content and degree of preservation. A finding of archaeological significance follows the criteria established in the CEQA *Guidelines*.

Section 15064.5 of the CEQA *Guidelines* define four ways that a property can qualify as a significant historical resource for purposes of CEQA compliance:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 4850 et seq.).
- 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 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.
- 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 §5024.1, Title 14 CCR, Section 4852) including the following:
    - Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    - Is associated with the lives of persons important in our past;
    - 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
    - Has yielded, or may be likely to yield, information important in prehistory or history.
- 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.

Historical resources are "significantly" affected if there is demolition, destruction, relocation, or alteration of the resource or its surroundings. Preservation in place is typically viewed as the preferred form of mitigation for a "historical resource of an archaeological nature" as it retains the relationship between artifact and context, and may avoid conflicts with groups associated with the site [PRC 15126.4 (b)(3)(A)]. In general, historical resources of an archaeological nature and "unique archaeological resources" typically can be mitigated to below a level of significance by:

- Relocating construction areas such that the site is avoided;
- Incorporation of sites within parks, greenspace, or other open space;
- "Capping" or covering the site with a layer of chemically stable soil before building; or

- Deeding the site into a permanent conservation easement. [PRC 15126.4 (b)(3)(B)]

If an archaeological resource does not meet either the historical resource or the more specific "unique archaeological resource" definition, impacts to such a resource would not be considered significant for purposes of CEQA and therefore would not require mitigation under CEQA [13 PRC 15064.5 (e)]. Where the significance of a site is unknown, it may be presumed to be significant for the purpose of the EIR investigation with appropriate mitigation identified.

8.6.2 Impact Assessment Methodology

For cultural resources, impact assessment is based on a comparison of known resource locations with the placement of ground disturbing project activities that have the potential to remove, relocate, damage, or destroy the physical evidence of past cultural activities. If such ground disturbance overlaps recorded site locations, then a direct impact may occur. Historical buildings and structures may be directly impacted if the nearby setting and context is modified substantially, even if the building or structure itself is not physically affected. Indirect impacts may occur if activities occur near, but not directly on, known cultural resources.

For tribal cultural resources, the City transmitted letters to the recommended tribal organizations and individuals identified by NAHC, requesting information or comments regarding Native American tribal cultural resources in the vicinity of the proposed project property. If the construction activities would demolish or destroy a tribal cultural resource or if they would materially impair the characteristics that make it eligible, the impact is determined to be significant. If a cultural resource is not a tribal cultural resource as defined by the Public Resource Code, there is no potential for impacts and impacts are not analyzed within this Section. As of this writing, the City has not received input from Tribal representatives or a request for formal consultation.

8.6.3 Summary of No and/or Beneficial Impacts

Not applicable. The potential for adverse effects upon historic, archaeological or tribal resources based on the thresholds of significance warrants evaluation.

8.6.4 Impacts of the Project

Impact CR-1: The project would not result in a substantial adverse change in the significance of a historical resource as defined by the significance criteria established by CEQA. This is a less than significant impact.

For the purposes of this analysis, it is important to note that while the existing project area consists of 14 individual properties with 161 apartment units, the Historic Assessment Memorandum prepared by Page & Turnbull primarily analyzed the four properties (e.g. 2032 Euclid Avenue, 2036 Euclid Avenue, 2040 Euclid Avenue, and 2043 Euclid Avenue) as these properties are significantly older and distinguishable from the other modern era apartment buildings on the site.

Construction and Operation

The project would demolish and remove 161 existing apartment units (within 15 buildings) and replace all structures with 605 new residential units and 5,000 square feet of neighborhood commercial and open space. The four properties analyzed in the historic resource evaluation are currently not listed on

any national, state or local register of historic resources. Based on Page & Turnbull's preliminary review, the four subject properties do not appear to be eligible for individual listing in the California Register under any criteria as detailed further below.

California Register of Historical Resources Analysis

In order for a property to be eligible for listing in the California Register, it must be found significant under one or more of the following criteria.

- *Criterion 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 2 (Persons)*: Resources that are associated with the lives of persons important to local, California, or national history.

- *Criterion 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 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 1

Research conducted by Page & Turnbull did not uncover any significant events that are known to have occurred at any of these four properties, and none of the properties appear to be associated with any broad patterns in local, state, or national history for eligibility under Criterion 1 (Events). Furthermore, none of these four properties are associated with any of the agricultural themes, including the development of Runnymede (the Weeks Poultry Colony Weeks Colony), that are part of East Palo Alto's unique development history.

Criterion 2

Page & Turnbull's preliminary research did not reveal any significant associations with the known owners or occupants of any of the four properties to suggest that they would be eligible under Criterion 2 (Persons). No architect or builder were identified for any of the properties; however, building permit histories were not available at the time of research.

Criterion 3

Based on preliminary review, 2032, 2036, and 2040 Euclid Avenue do not appear to be eligible for the California Register under Criterion 3 (Architecture). Two of the properties—2032 and 2036 Euclid Avenue—are modest Vernacular style residences that have been altered with front additions. 2040 Euclid Avenue is a modest expression of the Craftsman style, but has been reclad with stucco and all windows replaced with vinyl sash windows, and is not a good example of the style. The former residential building at 2043 Euclid Avenue was designed in a modest expression of the Tudor Revival style, and has since been altered. Not many examples of the Tudor Revival style appear to exist in City, which appears to, in part, be a function the agriculture-oriented development in the first half of the

twentieth century as the style is prevalent in neighboring cities, including examples built by contractors and architect-designed examples. Beyond the steeply pitched roof and decorative half-timbering, the residence does not exhibit many architectural or decorative features that are associated with full expressions of the Tudor Revival style. In addition, the building at 2043 Euclid Avenue has been altered significantly. This building is a modest expression of the Tudor Revival and does not stand out among numerous residential examples of this style regionally, statewide, or nationally. Based on Page & Turnbull's professional opinion, these properties are not a good example of the Craftsman and Tudor Revival styles.

Criterion 4

This criterion relates to the archaeological resources rather than built resources. This was beyond the scope of the memorandum prepared by Page & Turnbull. As discussed in Impact CR-2, the City has one major known archaeological site in the University Village area, which is located 0.7-mile away from the project area. Based on available records from the NWIC, General Plan and the fact that the site is currently developed with urban uses, there is little potential for the site to yield additional information. While the potential always exists to encounter unrecorded archaeological resources, the project would be required to implement appropriate mitigation in the event unrecorded archaeological resources are encountered during construction activities. See Impact CR-2 for the analysis on archaeological resources.

Based on the above analysis, development of the proposed project would not result in a significant impact to historic resources pursuant to CEQA Guidelines 15064.5. Impacts would be **less than significant** in this regard.

Impact CR-2: The project has the potential to cause a substantial adverse change to known and unknown archaeological and cultural resources and human remains. This is a less than significant impact with mitigation incorporated.

Construction and Operation

The City has one major known archaeological site in the University Village area. The project site is located approximately 0.7 miles northeast of University Village, well outside of this area. While the project site has already been subject to ground disturbance by its current development, there is still a moderate potential to encounter unrecorded archaeological resources and moderate to high potential to encounter unrecorded Native American archaeological resources if ground disturbance extends to bay mud deposits beneath areas of artificial fill during construction activities.

The following measures are based on findings and recommendations in the *Records Search Results for the Proposed Woodland Park Euclid Improvements Project* prepared by NWIC and mitigation strategies recognized and implemented by the City.

MM CR-2.1 Inadvertent Discovery of Archaeological Resources

In the event the buried, or previously unrecognized archaeological deposits or resources are encountered during ground disturbing activities, work shall be temporarily halted within a 50-foot radius of the discovered materials and workers should avoid altering the materials and their context until a qualified professional Archaeologist has evaluated the

situation and provided appropriate recommendations. Project personnel shall not collect cultural resources. Construction and potential impacts to the area(s) within a radius determined by the archaeologist shall not recommence until the assessment is complete.

If any tribal cultural resources are found, the project applicant and/or its contractor shall cease all work within 50 feet of the discovery and immediately notify the City of East Palo Alto Planning Division. Potentially significant Native American resources consist of but are not limited to chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. The tribal monitor(s) will contact the tribal representative(s) and in consultation with the City and an archeologist evaluate the finds. Appropriate mitigation measures for the inadvertently discovered tribal cultural resource shall be at the direction of tribal leadership. The City and tribal representative(s) shall consider the mitigation recommendations and agree on implementation of the measure(s) that are feasible and appropriate. Such measures may include reburial of any ancestral remains, avoidance, preservation in place, excavation, documentation, or other appropriate measures.

MM CR-2.2 Inadvertent Discovery of Human Remains

In the event that human remains (or remains that may be human) are discovered at the project site, Public Resource Code Section 5097.98 must be followed. All grading or earthmoving activities shall immediately stop within a 50-foot radius of the find. The project proponent shall then inform the San Mateo County Coroner and the City of East Palo Alto immediately, and the Coroner shall be permitted to examine the remains as required by California Health and Safety Code Section 7050.5(b).

Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the Coroner can determine whether the remains are those of a Native American. If human remains are determined as those of Native American origin, the applicant shall comply with the state relating to the disposition of Native American burials that fall within the jurisdiction of the NAHC (Public Resource Code [PRC] § 5097). The Coroner shall contact the NAHC to determine the most likely descendant(s) (MLD). The MLD shall complete his or her inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The MLD will determine the most appropriate means of treating the human remains associated grave artifacts, and shall oversee the disposition of the remains.

In the event the NAHC is unable to identify an MLD or the MLD fails to make a recommendation within 48 hours after being granted access to the site, the landowner or his/her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity within the project area in a location not subject to further subsurface disturbance.

Conclusion

Because the project location is situated within a moderate to high sensitivity area for unrecorded Native American archaeological resources and a moderate sensitivity area for unrecorded historic-period archaeological resources and results of the cultural resource assessment revealed historic-period activity within the immediate vicinity of the project site, there is a potential these archaeological resources to be encountered during project construction. Implementation of the mitigation measures listed above would effectively reduce project-specific impacts to a less than significant level by training personnel directly involved in project related ground disturbance and construction activities to halt work in the vicinity of any potential cultural resources discovery, and notify a qualified Archaeologist monitor as necessary. Implementation of the mitigation measures and compliance with existing codes and regulations for the treatment of these resources pursuant to established standards would reduce potential impacts to a **less than significant** level.

Impact CR-3: **The project has the potential to 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. This is a less than significant impact with mitigation incorporated.**

Construction and Operation

In compliance with PRC Section 21080.3.1(b), the City has provided formal notification to California Native American tribal representatives that have previously requested notification from the City regarding projects within the geographic area traditionally and culturally affiliated with the tribe. Native American groups may have knowledge about cultural resources in the area and may have concerns about adverse effects from development on tribal cultural resources as defined in PRC Section 21074.

On June 12, 2020, the City transmitted letters to the recommended tribal organizations and individuals identified by NAHC, requesting information or comments regarding Native American cultural resources in the vicinity of the proposed project. No tribes have yet requested AB 52 consultation with the City.

During construction activities, the project would implement the above-mentioned mitigation measures, MM CR-2.1 and CR-2.2, which would reduce impacts to archaeological resources, including resources that could be of cultural value to a tribe. As described in MM CR-2.2, if any Native American burials, tribal cultural resources are found during construction activities, the NAHC would be notified. With implementation of MMs CR-2.1 and CR-2.2, impacts associated with tribal cultural resources would be reduced to a **less than significant** level. Potential impacts to known and unknown resources could be effectively mitigated through tribal representative involvement and monitoring, as well as the protection and treatment of resources if advertently discovered consistent with state law and local policy.

8.6.5 Cumulative Impact Analysis

The geographic extent of cumulative impacts to cultural resources is highly dependent on the resources under discussion. For example, a cumulative effect within a historic landscape or district may extend across the district, while the cumulative effects associated with individual archaeological or paleontological resources may be limited in scope to the immediate project site, depending on the nature of the resources. As this chapter addresses both historic, prehistoric, and tribal cultural resources, the geographic scope of the cumulative analysis includes the land area within a quarter mile of the project site, as well as nearby pending or reasonably foreseeable development projects.

Impact CR-4: The project may incrementally contribute to the cumulative change or disturbance to historic or prehistoric resources known to exist in the vicinity of the project. This would result in a less than significant cumulative effect on cultural resources.

Page & Turnbull reviewed the National Register of Historic Places, California Register of Historical Resources, and City of East Palo Alto Local Register of Historic Resources to identify previously recorded historical resources on the four properties (2032, 2036, 2040, and 2043 Euclid Avenue) within the project site. None of the four properties were found to listed on any national, state, or local register of historic resources.

There are no recent or proposed projects in the immediate environment that, combined with the Woodland Park Euclid Improvements Project, would contribute to a cumulative impact to historic resources either on the site or nearby. Contributors to cumulative effects include the list of specific development projects identified in Chapter 4, Introduction to Environmental Analysis. These projects are not within the immediate environment of the project site and would not combine with the project in such a way as to result in significant cumulative impacts. Therefore, the potential for significant cumulative effects are considered **less than significant**.

8.7 References

City of East Palo Alto. 2017. *Vista 2035 East Palo Alto General Plan*.

Page & Turnbull. *2020. 2032, 2036, 2040, 2043 Euclid Avenue, East Palo Alto – Preliminary Historic Assessment Memorandum*.

Northwest Information Center. 2020. Records Search Results for the Proposed Woodland Park Euclid Improvements Project.

9 Energy

9.1 Introduction

This section describes the project's energy demands, changes in energy consumption, and effects of available energy conservation measures that could be applied to the project. Information used to prepare this section came from the following resources:

- California Emissions Estimator Model (CalEEMod) projections (see **Appendix B**)
- California Energy Commission (CEC)
- California Environmental Quality Act (CEQA) Air Quality Guidelines
- California Public Utilities Commission (CPUC)
- U.S. Energy Information Administration (EIA)

9.2 Scoping Issues Addressed

During the NOP public comment and scoping period for the proposed project, one comment was received regarding construction energy use. Energy used for construction is addressed in this chapter.

9.3 Environmental Setting

This section identifies and evaluates potential energy impacts of the project, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy to ensure that energy implications are considered in project-related decision-making processes. The Environmental Setting describes the existing setting of the project site as it relates to energy conservation; Regulatory Setting identifies associated regulatory conditions and requirements; and Environmental Impacts and Mitigation presents the criteria used to evaluate potential impacts related to use of fuel and energy upon implementation of the project and where applicable, identifies additional site-specific mitigation measures. This analysis considers the electricity, natural gas, and transportation fuel (petroleum) demands of the project, as well as potential service delivery impacts. This section is closely related to Chapter 11 (Greenhouse Gas Emissions). Where appropriate, and to minimize redundancy, cross references to the applicable analysis contained within the Greenhouse Gas Emissions chapter is provided.

9.3.1 California's Energy Use and Supply

Californians consumed 277,704 gigawatt hours (GWh)[1] of electricity in 2019, which is the most recent year for which data is available. Of this total, San Mateo County consumed 4,325 GWh (CEC, 2020a). In 2019, the California electricity mix included natural gas (42.97 percent), coal (0.12 percent), large hydroelectric plants (16.53 percent), nuclear (8.06 percent), oil (0.02 percent), petroleum coke/waste

[1] A watt hour is a unit of energy equivalent to one watt of power expended for one hour. For example, a typical light bulb is 60 watts, meaning that if it is left on for one hour, 60-watt hours have been used. One kilowatt equals 1,000 watts. The consumption of electrical energy by homes and businesses is usually measured in kilowatt hours (kWh). Some large businesses and institutions also use megawatt hours (MWh), where one MWh equals 1,000 kWh. One gigawatt equals 1,000 megawatts, or 1,000,000 kilowatts. The energy output of large power plants over long periods of time, or the energy consumption of jurisdictions, can be expressed in gigawatt hours (GWh).

heat (0.20 percent) and unspecified sources of power (N/A). The remaining 31.92 percent was supplied from renewable resources, such as wind, solar, geothermal, biomass, and small hydroelectric facilities (CEC, 2019b)[2]. In 2019, the state consumed 2,584,530 million cubic feet[3] of natural gas.[4]

Energy usage is typically quantified using the British Thermal Unit (BTU). Total energy usage in California was 2,408 trillion BTU in 2018 (the most recent year for which this specific data is available), which equates to an average of 202 million BTU per capita (EIA, 2020b). Of California's total energy usage, the breakdown by sector is 39 percent transportation, 23 percent industrial, 19 percent commercial, and 18 percent residential. Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use.[5] In 2019, taxable gasoline sales (including aviation gasoline) in California accounted for 15,428,040,813 gallons of gasoline.[6]

9.3.2 Current Energy Providers

Pacific Gas and Electric Company

Electricity in San Mateo County is primarily provided by the Pacific Gas and Electric Company (PG&E). The PG&E 2019 power mix was as follows: 46 percent natural gas, 9 percent nuclear, 32 percent renewables, 11 percent large hydroelectric, and 2 percent unspecified power[7].

The electricity consumption attributable to San Mateo County from 2008 to 2019 is shown in Table 9-1: Electricity Consumption in San Mateo 2008-2019. As indicated in Table 9-1: Electricity Consumption in San Mateo 2008-2019, energy consumption in San Mateo County has decreased between 2008 and 2018, and then slightly decreased in 2019.

Table 9-1: Electricity Consumption in San Mateo 2008-2019

Year	Electricity Consumption (in millions of kilowatt hours)
2008	5,076
2009	4,971
2010	4,767
2011	4,571
2012	4,508
2013	4,527
2014	4,452
2015	4,432

[2] California Energy Commission (CEC), *Energy Almanac, California's Electricity Data*, 2018.
[3] 100 cubic feet (CCF) is approximately the energy equivalent to burning 100 cubic feet of natural gas. 100 CCF of natural gas equals 103,700 a British Thermal Unit (BTU). A BTU is the amount of energy needed to raise the temperature of one pound of water by one degree Fahrenheit. A kBTU is 1,000 BTUs. A therm is 100,000 BTUs.
[4] U.S. EIA, *California Natural Gas Total Consumption*, 2018.
[5] EIA (US Energy Information Administration), California State Profile and Energy Estimates, http://www.eia.gov/state/data.cfm?sid=CA#ConsumptionExpenditures and https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_te.html&sid=US&sid=CA.
[6] California Board of Equalization, Net Taxable Gasoline Sales, 2016, https://www.boe.ca.gov/sptaxprog/reports/mvf_10_year_report.pdf.
[7] PG&E, 2018 Electric Power Mix, 2019.

Year	Electricity Consumption (in millions of kilowatt hours)
2016	4,340
2017	4,354
2018	4,255
2019	4,325

Source: CEC, Energy Consumption Database, 2020.

PG&E operates one of the largest natural gas distribution networks in the country, including approximately 42,142 miles of natural gas transmission and distribution pipelines (PG&E, 2019a). In all, PG&E delivers gas to approximately 4.3 million customer accounts and approximately 5.4 million electric customer accounts in Northern and Central California, including in San Mateo County.

The natural gas consumption in San Mateo County from 2008 to 2018 is shown in Table 9-2: Natural Gas Consumption in San Mateo County 2008-2018. Similar to energy consumption, natural gas consumption in San Mateo County remained relatively constant between 2008 and 2018, with no substantial increase.

Table 9-2: Natural Gas Consumption in San Mateo County 2008-2018

Year	Natural Gas Consumption (in millions of therms)
2008	231
2009	222
2010	221
2011	227
2012	224
2013	228
2014	193
2015	194
2016	200
2017	211
2018	210
2019	214

Source: CEC, Energy Consumption Database, 2020.

The California Public Utilities Commission (CPUC) regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins.

California's regulated utilities do not own any natural gas production facilities. All natural gas sold by these utilities must be purchased from suppliers or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the Federal Energy Regulatory Commission in the mid-1980s and is determined by market forces. However, the CPUC decides whether California's utilities have taken reasonable steps to minimize the cost of natural gas purchased on behalf of its core customers.

As indicated in the preceding discussion, natural gas is available from a variety of in-state and out-of-state sources, and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available through existing delivery systems, thereby increasing the availability and reliability of resources.

Transportation Fuels

California's transportation sector uses roughly half of the energy consumed in the state. In 2019, Californians consumed approximately 15.3 billion gallons of gasoline and 3 billion gallons of diesel fuel[8]. Automotive fuel consumption was estimated using California Air Resources Board (CARB) Emissions Factor (EMFAC) 2017 computer program for typical daily fuel use in Monterey County.

9.4 Regulatory Setting

This section presents legislation and regulations specifically related to energy conservation. See also Chapter 6 (Air Quality), Chapter 11 (Greenhouse Gas Emissions), and Chapter 17 (Transportation and Circulation), for other policies related to energy use. See Chapter 19 (Utilities and Service Systems) for policies related to water consumption. Federal, state, and local agencies regulate energy use and consumption through various means and programs. On the federal level, the U.S. Department of Transportation, the U.S. Department of Energy, and the U.S. Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the CPUC and CEC are two agencies with authority over different aspects of energy. Relevant federal, state, and local energy-related regulations are summarized below.

9.4.1 Federal

National Energy Policy and Conservation Act

The National Energy Conservation Policy Act serves as the underlying authority for Federal energy management goals and requirements. Signed into law in 1975, it has been regularly updated and amended by subsequent laws and regulations. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Energy Policy Act of 2005

The Energy Policy Act of 2005 sets equipment energy efficiency standards and seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under the Act, consumers and businesses can attain Federal tax credits for purchasing fuel-efficient appliances and products, including hybrid vehicles; constructing energy-efficient buildings; and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary micro-turbine power plants, and solar power equipment.

[8] California Department of Tax and Fee Administration, Fuel Taxes Statistics & Reports: *Taxable Diesel Gallons 10 Year Reports*, 2020.

Energy and Independence Security Act of 2007

The Energy and Independence Security Act of 2007 sets Federal energy management requirements in several areas, including energy reduction goals for Federal buildings, facility management and benchmarking, performance and standards for new buildings and major renovations, high-performance buildings, energy savings performance contracts, metering, energy-efficient product procurement, and reduction in petroleum use and increase in alternative fuel use. This act also amends portions of the National Energy Policy and Conservation Act. In addition to setting increased Corporate Average Fuel Economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- Renewable Fuel Standard (RFS) (Section 202)
- Appliance and Lighting Efficiency Standards (Sections 301–325)
- Building Energy Efficiency (Sections 411–441)

9.4.2 State

The discussion below focuses primarily on those policies, regulations, and laws that directly pertain to energy-related resources. Refer to Chapter 11, Greenhouse Gas Emissions, of this EIR, which addresses various policies, regulations, and laws targeted to the reduction of greenhouse gas (GHG) emissions that are expected to achieve co-benefits in the form of reduced demand for energy-related resources and enhanced efficiencies in the consumption of energy-related resources.

Renewable Energy Standards

In 2002, California established its Renewable Portfolio Standard program[9] with the goal of increasing the annual percentage of renewable energy in the state's electricity mix by the equivalent of at least 1 percent of sales, with an aggregate total of 20 percent by 2017. The California Public Utilities Commission subsequently accelerated that goal to 2010 for retail sellers of electricity (*Public Utilities Code* Section 399.15(b)(1)). Then-Governor Schwarzenegger signed Executive Order S-14-08 in 2008, increasing the target to 33 percent renewable energy by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the California Air Resources Board under its AB 32 authority to enact regulations to help the State meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. In September 2010, the California Air Resources Board adopted its Renewable Electricity Standard regulations, which require all of the State's load-serving entities to meet this target. In October 2015, then-Governor Brown signed into legislation Senate Bill 350, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030. Signed in 2018, SB 100 revised the goal of the program to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

[9] The Renewable Portfolio Standard is a flexible, market-driven policy to ensure that the public benefits of wind, solar, biomass, and geothermal energy continue to be realized as electricity markets become more competitive. The policy ensures that a minimum amount of renewable energy is included in the portfolio of electricity resources serving a state or country.

California 2007 Energy Action Plan Update

The 2007 Energy Action Plan II is the State's principal energy planning and policy document. The plan describes a coordinated implementation strategy to ensure that California's energy resources are adequate, affordable, technologically advanced, and environmentally sound. In accordance with this plan, the state and its electricity providers would invest first in energy efficiency and demand-side resources, followed by renewable resources, and only then in clean conventional electricity supply to meet its energy needs.

Building Codes

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977 and are updated every three years (Title 24, Part 6, of the California Code of Regulations). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 9, 2018, the CEC adopted the 2019 Building Energy Efficiency Standards, which took effect on January 1, 2020.

The 2019 Standards will improve upon the 2016 Standards. Under the 2019 Title 24 standards, residential buildings are expected to be about 7 percent more energy efficient, and when the required rooftop solar is factored in for low-rise residential construction, residential buildings that meet 2019 Title 24 standards would use about 53 percent less energy than those built to meet the 2016 standards. Nonresidential buildings will use about 30 percent less energy than those built to meet the 2016 standards.

California Green Building Standards Code

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary measures (CALGreen Tier 1 and Tier 2) that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2019 and took effect on January 1, 2020.

2006 Appliance Efficiency Regulations

The California Energy Commission adopted Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) on October 11, 2006. The regulations were approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both Federally regulated appliances and non-Federally regulated appliances. While these regulations are now often viewed as "business-as-usual," they exceed the standards imposed by all other states and they reduce GHG emissions by reducing energy demand.

State Vehicle Standards (AB 1493)

AB 1493 (Pavley Regulations and Fuel Efficiency Standards), enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011. The regulations establish one set of emission standards for model years 2009–2016 and a second set of emissions standards for model years 2017 to 2025. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO_2e emissions and 75 percent fewer smog-forming emissions.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or SB 375, coordinates land use planning, regional transportation plans, and funding priorities to help California meet its GHG emissions reduction mandates. As codified in California Government Code Section 65080, SB 375 requires metropolitan planning organizations (e.g., ABAG) to include a Sustainable Communities Strategy in their regional transportation plan. The main focus of the Sustainable Communities Strategy is to plan for growth in a fashion that will ultimately reduce GHG emissions, but the strategy is also part of a bigger effort to address other development issues, including transit and VMT, which influence the consumption of petroleum-based fuels.

9.4.3 Local

Project relevant general plan policies for energy conservation are addressed in this section. Relevant General Plan Policies that directly address reducing and avoiding energy impacts include the following:

City of East Palo Alto General Plan

Project relevant general plan policies for energy conservation are addressed in this section. Where inconsistencies exist, if any, they are addressed in the respective impact analysis below. Relevant General Plan Policies that directly address reducing and avoiding energy impacts include the following:

Parks, Open Space, and Conservation Element

Goal POC 7: Promote a sustainable energy system.

- Policy 7.1: Citywide building energy efficiency. Promote and encourage citywide building energy efficiency through strategies that may include the following:
    - Retrofits of buildings with energy-efficient technology
    - High energy performance in new buildings, in excess of CALGreen when possible.
- Policy 7.2: Municipal building energy efficiency. Strive for high levels of energy efficiency in municipal facilities.
- Policy 7.3: Energy-efficient infrastructure. Whenever possible, use energy-efficient models and technology when replacing or providing new city infrastructure such as streetlights, traffic signals, water conveyance pumps, or other public infrastructure.
- Policy 7.4: Renewable energy. Encourage the use of renewable energy in the City, including solar and wind in new and existing development.

9.5 Environmental Impacts and Mitigation Measures

9.5.1 Significance Criteria

The following significance criteria for Energy were derived from the Environmental Checklist in State CEQA Guidelines Appendix G. An impact of the project would be considered significant and would require mitigation if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The analysis below generally follows Appendix F of the State CEQA Guidelines, which states that the goal of conserving energy includes decreasing overall per capita energy consumption; decreasing reliance on fossil fuels such as coal, natural gas/propane, and oil; and increasing reliance on renewable energy.

9.5.2 Study Methodology

In determining whether implementation of the project would encourage wasteful consumption of fuel or energy, this analysis considers the recommendations of Appendix F (as described above), which states that environmental impact analyses of energy conservation may include:

1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project's life cycle including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials maybe discussed.
2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the project on peak and base period demands for electricity and other forms of energy.
4. The degree to which the project complies with existing energy standards.
5. The effects of the project on energy resources.
6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

This section analyzes energy consumption on three sources of energy that are relevant to the project: electricity, propane, and transportation fuel for vehicle trips associated the proposed project.

- The analysis of project electricity/propane usage is based on California Emissions Estimator Model (CalEEMod) modeling, which quantifies energy use for occupancy. The results of the CalEEMod modeling are included in **Appendix B** of this Draft EIR.

- Modeling related to transportation fuel consumption was based primarily on the default settings in the computer program for San Mateo County. The amount of operational fuel use was estimated using CalEEMod outputs for the project and the California Air Resources Board's Emissions Factor 2017 (EMFAC2017) computer program for typical daily fuel usage in Santa Clara County. Construction fuel consumption was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry. The results of EMFAC2017 modeling and construction fuel estimates are included in **Appendix D**.

9.5.3 Summary of No and/or Beneficial Impacts

Not applicable.

9.5.4 Impacts of the Proposed Project

In determining whether implementation of the project would result in the inefficient, wasteful or unnecessary use of fuel or energy, this analysis considers the recommendations of Appendix F to the CEQA Guidelines as described above.

This section analyzes energy use on three sources of energy that are relevant to the project, including electricity, natural gas, and transportation fuel for vehicle trips associated with new development, as well as the fuel necessary for project construction. The analysis of project electricity and natural gas use is based on CalEEMod, which quantifies energy use for occupancy. The results of CalEEMod are included in the Air Quality Assessment and Greenhouse Gas Emissions Data located in **Appendix B**. Modeling related to project energy use was based primarily on the default settings in CalEEMod. The amount of operational fuel use was estimated using CalEEMod outputs for the project and the CARB Emissions Factor (EMFAC) 2017 computer program for typical daily fuel use in San Mateo County. Construction fuel was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry.

Impact ER-1: The project could result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. This is a less than significant impact.

Construction (Short-Term)

The energy consumption associated with buildout of 605 dwelling units and approximately 5,000 square feet of retail includes electricity usage associated with water usage for dust control, diesel fuel consumption from on-road hauling trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute and vendor trips. Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers, and heating, ventilation, and air conditioning) would be powered by a generator. The amount of electricity used during construction would be minimal; typical demand would stem from the use of electrically powered hand tools and several construction trailers by managerial staff during the hours of construction activities. The majority of the energy used during construction would be from petroleum. The electricity used for construction activities would be temporary and minimal. The methodology for each category is discussed below. This analysis relies on the construction equipment list and operational characteristics, as stated in Chapter 6, Air Quality and Chapter 11, Greenhouse Gas Emissions, as well as **Appendix B** of this Draft EIR. Quantifications of construction energy consumption are provided for the project, followed by an analysis of impacts based on those quantifications.

Electricity Usage

Water Consumption for Construction Dust Control

Electricity usage associated with water consumption for construction dust control is calculated based on total water consumption and the energy intensity for supply, distribution, and treatment of water.

The total number of gallons of water usage is calculated based on acreage disturbed during grading and site preparation, as well as the daily water consumption rate per acre disturbed.

- The total acres disturbed are calculated using the methodology described in Chapter 4.2 of Appendix A of the CalEEMod User's Guide (Grading Equipment Passes).
- The water application rate of 3,020 gallons per acre per day is from Air & Waste Management Association's Air Pollution Engineering Manual.

The energy intensity value is based on the CalEEMod default energy intensity per gallon of water for San Mateo County.

As summarized in Table 9-3: Project Energy Consumption During Construction, the total electricity consumption associated with water consumption for construction dust control would be approximately 295 MWh over the duration of buildout of the project.

Petroleum Fuel Usage

On-Road Diesel Construction Trips

The diesel usage associated with on-road construction mobile trips is calculated based on vehicle miles traveled (VMT) from vehicle trips (i.e., worker, vendor, and hauling), the CalEEMod default diesel fleet percentage, and vehicle fuel efficiency in miles per gallon. Fuel consumption is based on VMT for the entire construction period. Construction fuel consumption was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry. The CalEEMod emissions are specific to construction year and include fleet adjustments based on current regulations and equipment turnover.

As summarized in Table 9-3: Project Energy Consumption During Construction, the total diesel consumption associated with on-road construction trips would be approximately 84,334 gallons over the duration of buildout of the project. For analysis purposes it is assumed construction of the project would occur in Summer 2020 and end in Summer 2025. Construction equipment in future years would also be required to comply with more stringent fuel efficiency standards. Project construction fuel demand would have a lower effect on regional energy supplies.

Off-Road Diesel Construction Equipment

The construction diesel usage associated with the off-road construction equipment is calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry. In addition, Mitigation Measure AQ-1 (BAAQMD Basic Construction Mitigation Measures) would require limiting idling time to five minutes and would result in less fuel wasted. As summarized in Table 9-3: Project Energy Consumption During Construction, the total diesel consumption associated with off-road construction equipment is approximately 131,018 gallons for duration of buildout the project. It should be noted that the diesel consumption in Table 9-3: Project Energy Consumption During Construction conservatively does not include additional reductions from the idling limitations required by MM AQ-1.

Gasoline Usage

On-Road Gasoline Construction Trips

The gasoline usage associated with on-road construction mobile trips is calculated based on VMT from vehicle trips (i.e., worker, vendor, and hauling), the CalEEMod default gasoline fleet percentage, and vehicle fuel efficiency in miles per gallon using the same methodology as the construction on-road trip diesel usage calculation discussed above. As summarized in Table 9-3: Project Energy Consumption During Construction, the total gasoline consumption associated with on-road construction trips would be approximately 113,012 gallons over the duration of buildout for the project.

Table 9-3: Project Energy Consumption During Construction

Project Source	Total Construction Energy	San Mateo County Annual Energy	Percentage Increase Countywide
Electricity Use		**GWh**	
Water Use[1]	295	4,325	0.007%
Diesel Use		**Gallons**	
On-Road Construction Trips[2]	84,334	29,048,970	0.290%
Off-Road Construction Equipment[3]	131,018		0.451%
Construction Diesel Total	215,352		0.741%
Gasoline Use		**Gallons**	
On-Road Construction Trips	113,012	246,276,166	0.0460%

Sources: **Appendix D**, Energy Calculations

1. On-road mobile source fuel use based on vehicle miles traveled (VMT) from CalEEMod and fleet-average fuel consumption in gallons per mile from EMFAC2017 in San Mateo County.

2. Off-road mobile source fuel usage based on a fuel usage rate of 0.05 gallons of diesel per horsepower (hp)-hour from USEPA.

Abbreviations:

CalEEMod: California Emission Estimation Model; EMFAC: Emission Factor Model 2017

Construction Energy Use Analysis

In total, construction of the project would consume approximately 295,273 kWh of electricity, 215,352 gallons of diesel, and 113,012 gallons of gasoline.

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 the region or state. In addition, some incidental energy conservation would occur during construction through compliance with State requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest EPA and CARB engine emissions standards. These engines use highly efficient combustion engines to minimize unnecessary fuel consumption.

The project would entail construction activities that would use energy, primarily in the form of diesel fuel (e.g., mobile construction equipment) and electricity (e.g., power tools). Contractors would be required to minimize air quality emissions of construction activities using applicable regulatory guidance such from BAAQMD CEQA Guidelines as required by MM AQ-2.1. This requirement indirectly relates to construction energy conservation because when air pollutant emissions are reduced from the monitoring and the efficient use of equipment and materials, energy use is reduced. There are no

aspects of the project that would foreseeably result in the inefficient, wasteful, or unnecessary use of energy during construction activities.

Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive, and that there is a significant cost-savings potential in green building practices and materials. Substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ all available and reasonable energy conservation practices in the interest in minimizing the cost of doing business.

As described above, the project's fuel from the entire construction period would increase fuel use in the County by approximately 0.70 percent for diesel and 0.05 percent for gasoline. The CEQA Guidelines Appendix G and Appendix F criteria requires the project's effects on local and regional energy supplies and on the requirements for additional capacity to be addressed. A 0.70 percent increase in construction fuel demand is not anticipated to trigger the need for additional capacity. As noted above, fuel consumption is based on a conservative construction phasing and conservative estimates for annual construction fuel consumption. Longer phases would result in lower construction intensity and a lower annual fuel consumption, resulting in lower annual demand on energy supplies. Additionally, use of construction fuel would cease once the project is fully developed. As such, project construction would have a nominal effect on the local and regional energy supplies.

As stated above, 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 the region or state. In addition, MM AQ-2.1 would be implemented which requires the project to limit idling to two minutes (beyond the state standard of five minutes), which would reduce fuel consumption. Additionally, the project would not involve soil hauling, which would reduce haul truck trips and associated fuel consumption. Therefore, it is expected that construction fuel consumption associated with the project would not be inefficient, wasteful, or unnecessary. The project would not substantially affect existing energy or fuel supplies or resources and new capacity would not be required. Impacts would be **less than significant** in this regard.

Operations (Long-Term)

The energy consumption associated with operation of uses pursuant to the project would include building electricity, water, and natural gas usage, as well as fuel usage from on-road vehicles. The methodology for each category is discussed below.

Petroleum Fuel Usage

The gasoline and diesel fuel associated with on-road vehicular trips is calculated based on total VMT calculated for the analyses within Chapter 6 Air Quality, and Chapter 11 Greenhouse Gas Emissions, and average fuel efficiency from the EMFAC model. The EMFAC fuel efficiency data incorporates the Pavley

Clean Car Standards and the Advanced Clean Cars Program[10]. As summarized in Table 9-4: Project Energy Use During Operations, the total gasoline and diesel fuel associated with on-road trips would be approximately 448,380 gallons per year and 182,511 gallons per year, respectively.

Table 9-4: Project Energy Use During Operations

Project Source	Total Energy	San Mateo County Annual Energy	Percentage Increase Countywide
Electricity Use		**GWh**	
Area Use[1]	3.66	4,325	0.085%
Water Use[1]	0.25		0.006%
Electric Pump	1.97		0.046%
Total Electricity	5.88		0.136%
Natural Gas		**Therms**	
Area Use[1]	41,891	214,429,843	0.020%
Diesel Use		**Gallons**	
Diesel Pump	574	29,048,970	0.002%
Mobile[2]	182,511		0.628%
Total Diesel Use	183,085		0.630%
Gasoline Use			
Mobile[2]	448,380	246,276,166	0.182%

Source: Energy Calculations in **Appendix D**
Notes:
1. The electricity and natural gas usage are based on project-specific estimates and CalEEMod defaults.
2. Calculated based on the mobile source fuel use based on vehicle miles traveled (VMT) and fleet-average fuel consumption (in gallons per mile) from EMFAC2017.
Abbreviations: CalEEMod: California Emission Estimation Model; EMFAC2017: California Air Resources Board Emission Factor Model; kWh: kilowatt-hour

Electricity Usage

The electricity use during project operations is based on CalEEMod defaults. As summarized in Table 9-4, the residential and commercial land uses along with the parking lot would use approximately 3.66 GWh of electricity per year.

The electricity associated with operational water use is estimated based on the annual water use and the energy intensity factor is the CalEEMod default energy intensity per gallon of water for San Mateo County. Project area water use is based on the CalEEMod default rates. The project would use approximately 55 million gallons annually of water annually which would require approximately 0.01 GWh per year for conveyance and treatment.

The electric motor pump utilized as part of the fire pump station would require approximately 1.97 GWh per year.

[10] The CARB EMFAC 2017 Technical Documentation from March 2018 notes that emissions are estimated with all current controls active, except Low Carbon Fuel Standards (LCFS). The reason for excluding LCFS is that most of the emissions benefits due to the LCFS come from the production cycle (upstream emissions) of the fuel rather than the combustion cycle (tailpipe). As a result, LCFS is assumed to not have a significant impact on CO_2 emissions from EMFAC's tailpipe emission estimates.

Natural Gas Usage

The methodology used to calculate the natural gas use associated with the project is based on CalEEMod default rates. As summarized in Table 9-4: Project Energy Use During Operations, the project would use approximately 4,189,110 thousand British Thermal Units (kBTU) of natural gas per year.

Operational Energy Use Analysis

Operation of the project would annually use approximately 5.88 GWh of electricity, 41,891 therms of natural gas, 448,380 gallons of gasoline, and 183,085 gallons of diesel.

Californians used 277,704 GWh of electricity in 2019, of which San Mateo County used 4,325 GWh.[11] The project's operational electricity use would represent 0.001 percent of electricity used in the state, and 0.14 percent of the energy use in San Mateo County. Regarding natural gas, San Mateo County used 214 million therms of natural gas in 2019. Therefore, the project's operational natural gas use would represent 0.020 percent of the natural gas use in the County.

In 2020, Californians are anticipated to used approximately 14,062,187,335 gallons of gasoline and approximately 3,367,590,333 gallons of diesel fuel. San Mateo County annual gasoline fuel use in 2020 is anticipated to be 166,140,811 gallons and diesel fuel is anticipated to be 29,642,248 gallons. Expected project operational use of gasoline and diesel would represent 0.003 percent of current gasoline use and 0.006 percent of current diesel use in the state.[12] Project operational use of gasoline and diesel would represent 0.18 percent of gasoline use and 0.63 percent of diesel use in the County.

None of the project energy uses exceed one percent of their corresponding County use. Project operations would not substantially affect existing energy or fuel supplies or resources. The project would comply with applicable energy standards and new capacity would not be required. Impacts would be **less than significant** in this regard.

Impact ER-2: The project would not obstruct a State or Local plan for renewable energy or energy efficiency. This is a less than significant impact.

Project design and operation would comply with State Building Energy Efficiency Standards, appliance efficiency regulations, and green building standards. As discussed above in Impact ER-1, project development would not cause inefficient, wasteful or unnecessary energy use, and impacts would be less than significant.

The City of East Palo Alto does not have a stand-alone Climate Action Plan or Energy Plan. However, the project is consistent with the CARB Scoping Plan, which implements the State requirements for AB 32 and SB 32. Therefore, the project is consistent with AB 32, which aims to decrease emissions statewide to 1990 levels by 2020. The project would develop the project site with residential and commercial uses consistent with the General Plan. The project would not conflict with the General Plan. Impacts are considered less than significant.

[11] California Energy Commission (CEC), *Energy Almanac, California's Electricity Data*, 2019.
[12] U.S. EIA, California Natural Gas Total Consumption, 2020.

Regional Plans

Bay Area MTC's RTP/SCS Plan Bay Area 2040 integrates transportation, land use and housing to meet GHG reduction targets set by CARB. The most recent plan was adopted in July 2017. Plan Bay Area 2040 establishes GHG emissions goals for automobiles and light-duty trucks for 2020 and 2035 as well as an overall GHG target for the project region consistent with both the target date of AB 32 and the post-2020 GHG reduction goals of EOs 5-03-05, B-30-15, and SB 32.

As noted above, the project would not conflict the City General Plan and is within an area planned for residential development. Although the project would result in an increase in residents and employees on the project site, the increase would not exceed the growth assumptions in the General Plan. Plan Bay Area sets forth regional transportation policy and provides capital program planning for all regional, State, and Federally funded projects. In addition, Plan Bay Area provides strategic investment recommendations to improve regional transportation system performance over the next 25 years. Plan Bay Area includes employment and household projections for the region. The MTC forecasted that, between 2010 and 2040, the San Francisco Bay Area will see increases in the number of jobs, population, and households.

The project would be consistent with the overall goals of Plan Bay Area 2040 to provide housing, healthy and safe communities, and climate protection, with an overall goal to reduce VMT. The proposed residential mixed-use project is an infill project and is adding housing in a developed area. This new addition would not substantially conflict with Plan Bay Area's goals. Therefore, the project would not conflict with the land use concept plan in Plan Bay Area 2040 and impacts would be less than significant. Potential impacts are considered less than significant, and no mitigation is required.

9.5.5 Cumulative Impact Analysis

Impact ER-3: The project would not contribute to cumulatively considerable impacts to energy consumption. This is a less than significant impact.

Construction and operation associated with implementation of the project would result in the consumption of fuel and energy, but it would not do so in a wasteful manner, as discussed above. The consumption of fuel and energy would not be substantial in comparison to statewide electricity, natural gas/propane, gasoline, and diesel demand; refer to Table 9-3 and Table 9-4. New capacity or supplies of energy resources would not be required. Additionally, the project would be subject to compliance with all Federal, State, and local requirements for energy efficiency.

The anticipated project impacts, in conjunction with cumulative development in the site vicinity, would increase urbanization and result in increased energy consumption. Potential land use impacts are site-specific and require evaluation on a case-by-case basis. Each cumulative project would require separate discretionary approval and CEQA assessment, which would address potential energy consumption impacts and identify necessary mitigation measures, where appropriate.

As noted above, the project would not result in significant energy consumption impacts. The project would not be considered inefficient, wasteful, or unnecessary with regard to energy. Thus, the project and identified cumulative projects are not anticipated to result in a significant cumulative impact. Therefore, potential cumulative energy impacts are considered **less than significant**.

9.6 References

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10 Geology and Soils

10.1 Introduction

This section describes the project's potential effects related to geologic or soil stability hazards, erosion, seismic risk, and/or effects upon local paleontological resources that could be caused by implementation of the project. Information used to prepare this section came from the following resources:

- Geosphere Consultants, Inc., Feasibility Geotechnical Engineering Study for Woodland Park – Euclid Improvements, 2019 (see **Appendix E**)
- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Safety and Noise Element, 2017
- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Land Use and Community Character Element, 2017

10.2 Scoping Issues Addressed

During the Notice of Preparation (NOP) public comment and scoping period for the proposed project, several comments were received regarding geology and soils were received. Comments received were generally concerned with geologic stability and seismic risks. These issues are addressed in this section as they relate specifically to risks or conditions that could be caused by the project. Related issues, such as noise created by construction methods, are addressed in other chapters.

10.3 Environmental Setting

10.3.1 Regional Setting

The City of East Palo Alto is located on the San Francisco Peninsula and is situated in the central portion of the northern Coast Ranges province of California. The Coastal Ranges extend from the Transverse Ranges in southern California to the Oregon border and is comprised of northwest-trending ridges and valleys that have been formed by faulting and folding of Earth's crust. Although no active faults exist in the City, several major faults have been mapped in the region.

The geologic foundation of the northwestern and eastern boundaries of the City, including the Cooley Landing area, is underlain by Holocene-aged Bay Mud (Qhmb) and artificial fill (af). Further inward of the City, the basin deposits transition into interfingered flood plain deposits (Qhfp), typically composed of dense sandy to silty clay with lenses of coarser silt and sand; and natural Holocene-age levee deposits (Qhl), generally consisting of loose, permeable sandy or clayey silt (City of East Palo Alto, 2016).

10.3.2 Project Setting

A geotechnical engineering study was conducted by Geosphere Consultants, Inc. to evaluate the subsurface conditions and develop conclusions and preliminary recommendations on the feasibility of development at the project site from a geotechnical and geological standpoint. On October 25, 2017, a total of five test borings were performed at the project site with a machine power drill rig to collect soil samples. The five test borings were drilled to depths ranging between 20 to 40 feet below the ground surface. Laboratory tests were performed on selected samples from the borings to develop a subsurface

profile of the soil and bedrock conditions at the project site discussed below. The test boring logs are available in **Appendix E**.

Topography and Slope Stability

Slope instability or land sliding occurs when the shear strength of the soil within the slope is over powered by the driving forces within the slope (i.e. ground water, soil weight, seismic shaking). The project site is located on relatively flat land with the project area sloping gently towards the San Francisco Bay in the north-northeast direction with elevations ranging from 23 to 25 feet. No areas in the City, including the project site, exhibit steep slopes (generally considered to be 30 percent or greater) or other features that would result in landslides or collapse (City of East Palo Alto, 2016).

Geology

The project site is underlain by Holocene-aged surficial sediments. The surficial sediments are comprised of alluvial gravel, sand, silt, and clay, which represent undifferentiated stream alluvium in drainages and younger alluvial fan deposits at base of slopes and on fan areas. Simply put, the underlying geology consists of San Francisco Bay Mud deposits.

Faults and Seismicity

The project site is located in a seismically active region that has historically experienced periodic, large magnitude earthquakes. While no known active faults have been mapped in the City, major active faults in proximity to the project site include the Monte Vista-Shannon, San Andreas, Seal Cove-San Gregorio, Hayward, Calaveras, and Greenville faults (Geosphere Consultants, Inc, 2019). The closest known active fault, Monte Vista-Shannon fault, is approximately, 5.5 miles southwest of the project site. Active and potentially active faults in proximity to the project site are presented in Table 10-1: Regional Faults.

Table 10-1: Regional Faults

Fault	Direction from Project Site	Approximate Distance from Project Site (miles)
San Andreas fault	Southwest	7
Hayward fault	Northeast	11.5
Seal Cove-San Gregorio	Southwest	16
Calaveras fault	Northeast	17
Greenville	Northeast	30

Source: Geosphere Consultants, 2019

An inactive fault identified as the Palo Alto Fault traverses locally along Highway 101 and is mapped in close proximity to the project site, however this fault is poorly defined with no surface expression within the project area (Geosphere Consultants, Inc, 2019).

Surface Fault Rupture

Fault rupture is the surface displacement that occurs when movement on a fault deep within the earth breaks through to the surface. The Alquist-Priolo Earthquake Fault Zoning Act delineates fault rupture zones approximately 1,000 feet wide, or 500 feet on either side of an active fault trace. Fault rupture and displacement almost always follows preexisting faults, which are zones of weakness; however, not

all earthquakes result in surface rupture (i.e., earthquakes that occur on blind thrusts do not result in surface fault rupture. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep).

In addition to damage caused by ground shaking from an earthquake, fault rupture is damaging to buildings and other structures due to the differential displacement and deformation of the ground surface that occurs from the fault offset. This can lead to damage or collapse of structures across this zone. Fault rupture displacements in large earthquakes can range from several feet to greater than 15 feet (i.e. displacement on the San Andreas Fault in the 1857 M 7.9 Fort Tejon earthquake was at least 18 feet). The project site is not located within an Alquist Priolo Earthquake Fault Zone, and potential for fault rupture at the project site is very low to nil (Geosphere Consultants, 2019).

Groundshaking

An earthquake is classified by the amount of energy released, which traditionally has been quantified using the Richter scale (M_L). However, seismologists now commonly use the Moment Magnitude (M_W) scale because it provides a more accurate measurement of the size of major and great earthquakes. For earthquakes of less than M 7.0, the Moment and Richter Magnitude scales are nearly identical. For earthquake magnitudes greater than M 7.0, readings on the Moment Magnitude scale are slightly greater than a corresponding Richter Magnitude.

The intensity of the seismic shaking, or strong ground motion, during an earthquake is dependent on the distance between the project site and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the project site. Earthquakes occurring on faults closest to the project site would most likely generate the largest ground motion. The project site would likely experience moderate to strong ground shaking from a major earthquake originating from a number of significant faults in the greater San Francisco Bay Area, including the San Andreas, Hayward-Rodgers Creek, Calaveras, Seal Cove-San Gregorio, and Concord-Green Valley faults (Geosphere Consultants, Inc, 2019).

Liquefaction

Liquefaction tends to occur in loose, saturated fine-grained sands, course silts, or clays with low plasticity. The liquefaction process typically occurs at depths less than 50 feet below the ground surface, although liquefaction can occur at deeper intervals, given the right conditions. The most susceptible zone occurs at depths shallower than 30 feet below the ground surface.

For liquefaction to occur, there must be the proper soil type, soil saturation, and cyclic accelerations of sufficient magnitude to progressively increase the water pressures within the soil mass. Non-cohesive soil shear strength is developed by the point-to-point contact of the soil grains. As the water pressures increase in the void spaces surrounding the soil grains, the soil particles become supported more by the water than the point-to-point contact. When the water pressures increase sufficiently, the soil grains begin to lose contact with each other resulting in the loss of shear strength and continuous deformation of the soil where the soil begins to liquefy.

Liquefaction can lead to several types of ground failure, depending on slope conditions and the geological and hydrological settings, of which the four most common types of ground failure are: 1) lateral spreads; 2) flow failures; 3) ground oscillation; and 4) loss of bearing strength. Using the

interactive liquefaction susceptibility map available through the Association of Bay Area Governments (ABAG), the project site is mapped in a zone of very high liquefaction susceptibility (Geosphere Consultants, Inc, 2019).

Lateral Spreading

Lateral spreading is the horizontal movement or spreading of soil toward an open face such as a stream bank or the open side of fill embankments as a result of liquefaction. Lateral spreading can occur on relatively flat sites with slopes less than two percent under certain circumstances, generally when the liquefied layer is in relatively close proximity to an open, free slope face such as the bank of a creek channel. Lateral spreading can cause surficial ground tension cracking (i.e., lurch cracking) and settlement. As part of the Geotechnical Engineering Study, Geosphere Consultants, conducted a liquefaction analysis of the soils encountered in the subsurface investigation using the software package LiquefyPro, Version 5. Based on their analysis, the project site was determined not to be significantly susceptible to lateral spreading.

Soils

A number of soil properties have important implications for development and resource management. Because of the relatively flat topography of the City, runoff erosion hazards, and the clayey soil conditions minimize wind erosion. Based on the test boring results, the subsurface profile of the site generally consists of relatively loose granular or soft to medium stiff cohesive surficial soils. These soils were determined to be potentially weak and compressible, and may result in engineering challenges depending on foundation type.

Paleontological Setting

Paleontological resources are nonrenewable scientific and educational resources. Projects subject to CEQA must determine whether a project would "directly or indirectly destroy a unique paleontological resource."

The Vista 2035 East Palo Alto General Plan EIR indicates most fossils in the Peninsula and San Francisco regions are found along the immediate Pacific Ocean coastline, and in locations within the outcropping marine units in the Santa Cruz Mountains. Since the City does not extent into either of these areas, the likelihood of encountering fossils in underlying geologic layers is low.

The geologic units underlying the City are comprised mainly of Holocene period alluvial fan deposits and Holocene period San Francisco Bay Muds. The Holocene period was during an era where human civilization generally first began. Fossils are usually found in substantially older geologic layers and formations.

10.4 Applicable Regulations, Plans, and Standards

10.4.1 Federal

International Building Code

Published by the International Code Council, the scope of this code covers major aspects of construction and design of structures and buildings, except for 3-story one- and two-family dwellings and town

homes. In 2000, the 1997 Uniform Building Code was replaced by the International Building Code and contains provisions for structural engineering design. Published by the International Conference of Building Officials, the 2018 International Building Code (IBC) addresses the design and installation of structures and building systems through requirements that emphasize performance. The IBC includes codes governing structural as well as fire- and life-safety provisions covering seismic, wind, accessibility, egress, occupancy, and roofs.

10.4.2 State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act, Public Resources Code (PRC), section 2621-2630 (formerly the Special Studies Zoning Act), regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. This Act categorizes faults as active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations to determine whether building setbacks should be established.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, PRC, Sections 2690–2699, of 1990 directs the California Department of Conservation, Division of Mines and Geology [now called California Geological Survey (CGS)] to delineate Seismic Hazard Zones. The purpose of the act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards.

Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones.

California Building Standards Code

The California Building Code (CBC) is another name for the body of regulations known as the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code and establishes minimum requirements for a buildings structural strength and stability to safeguard the public health, safety and general welfare. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable.

Published by the International Conference of Building Officials, the Uniform Building Code (UBC) is a widely adopted model building code in the United States. The CBC incorporates by reference the 2006 International Building Code, with necessary California amendments.

10.4.3 Local

Vista 2035 East Palo Alto General Plan

General plan policies relative to geology, soils, related hazards, and paleontological resources are identified below. Relevant General Plan Policies that directly address reducing and avoiding geologic and soil related risks and impact, and paleontological resources include the following:

Safety and Noise

Goal 1: Reduce the risk to people and property from earthquakes and other geologic hazards.

- Policy 1.1: Construction requirements. Apply the proper development engineering and building construction requirements to avoid or minimize risks from seismic and geologic hazards.
- Policy 1.2: Robust seismic guidance. Utilize and enforce the most recent State guidance for seismic and geologic hazards when evaluating development proposals.
- Policy 1.3: Licensed geologist. Require that a state licensed engineering geologist prepare and/or review development proposals involving grading, unstable soils, and other hazardous conditions. Incorporate recommendations of the geologists into design plans, potentially including building modifications and open space easements.

Parks, Open Space, and Conservation

Goal 9: Protect historic, natural, mineral, and cultural resources.

- Policy 9.1: Archaeology, paleontology, and natural resources. Protect areas of important archaeological, paleontological, and natural resources.

Westside Area Plan

The Westside Area Plan is a separate chapter of the Vision 2035 General Plan, providing more detailed goals and policies for the Westside area of East Palo Alto. There are no specific policies related to geology and soils in the Westside Area Plan.

East Palo Alto Municipal Code

Chapter 15.08 – Building Code

Chapter 15.08 of the City Municipal adopts the 2013 California Building Code - with slight revisions to address local conditions - as the Building Code for East Palo Alto. The purpose of this code is to establish minimum design and construction standards to prevent loss of life or property.

Chapter 15.48 – Excavation, Grading, Filling, and Clearing Regulations

This chapter of the East Palo Alto City Code applies regulatory provisions for all aspects of grading and clearing operations, and establishes procedures for the issuance, administration, and enforcement of a permit. These regulations are intended to minimize the adverse effects of grading, cut, and fill operations, land clearing, water runoff, and soil erosion, thereby reducing he hazards of earth slides, mud flows, rock falls, undue settlement, erosion, siltation, and flooding, or other special conditions

Environmental Impacts and Mitigation Measures

10.4.4 Significance Criteria

The following significance criteria for geology and soils were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts related to the proposed project.

An impact of the proposed project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Directly or indirectly cause 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.
    ii) Strong seismic ground shaking
    iii) Landslides
- Result in substantial soil erosion or the 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 direct or indirect risks to life or property.
- Result in soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

10.4.5 Summary of No and/or Beneficial Impacts

On-Site Wastewater Disposal System

The project would dispose of wastewater via a sanitary sewer system. There would be no on-site wastewater or septic system with the project. Therefore, there would be no impact.

10.4.6 Impacts of the Proposed Project

Impact GEO-1: **The project would not directly or indirectly cause 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. This is a less than significant impact.**

Construction and Operation

As mentioned above, the project site is not located within an Alquist-Priolo Earthquake Fault Zone as mapped by the State Geologist. Based on Geosphere Consultant's evaluation, the potential for fault rupture at the project site is very low to nil. The closest known fault to the project site is the Monte Vista-Shannon Fault, located approximately 5.5 miles southwest of the project site. The next closest fault to the project site is the San Andreas Fault, which is located approximately 7 miles southwest of the project site. Given the project's location, this impact would be **less than significant**.

Impact GEO-2: The proposed project could be subject to strong seismic ground shaking during a seismic event. This is a less than significant impact with application of existing building codes and standards.

Construction and Operation

Given the City is within a seismically active region where a number of seismic hazards may occur, seismic shaking is anticipated to occur during the design life of the project. As discussed above, the project site would likely experience moderate to strong ground shaking from a major earthquake originating from the San Andreas, Hayward-Rodgers Creek, Calaveras, Seal Cove-San Gregorio, or Concord-Green Valley faults due to the distance to the project site. However, the project would be required to be designed and constructed to withstand the expected magnitude of seismic event in order to minimize seismic impacts. The project would be subject to the latest CBC requirements at a minimum, which require development projects to perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues, and to use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. In addition, the project would be subject to Chapter 15.08 of the City Municipal Code. Compliance with these standard conditions, including verification of all structural design element and engineering reviews, would ensure that the structures would be constructed to withstand reasonably expected seismic activity and associated potential hazards. The required compliance with applicable CBC standards and City General Plan policies, and Chapter 15.08 of the City Municipal Code would reduce impacts to a **less than significant** level. No further project specific mitigation is required.

Impact GEO-3: The project's susceptibility to landslide conditions is low. Risk of landslide is a less than significant impact.

Construction and Operation

As discussed above, no areas in the City exhibit steep slopes or other features that would result in landslides or collapse. The project site is located on relatively flat land with the project area sloping gently towards the San Francisco Bay in the north-northwest direction. The adjacent University Circle complex is constructed upon a knoll; however, this project incorporates extensive retaining walls and concrete construction along Manhattan Avenue, and as constructed is not susceptible to landslides that could affect the Woodland Park Euclid Improvements project.

The project would be subject to applicable CBC standards, City General Plan policies, and Section 15.08 and 15.48 of the City Municipal Code, which would ensure that the structures and associated improvements are designed and constructed to withstand potential hazards, such as landslides.

Compliance with applicable CBC standards and City General Plan policies, and Chapter 15.08 and 15.48 of the City Municipal Code would reduce impacts related to landslides to a **less than significant** level.

Impact GEO-4: The project could result in minor soil erosion or the loss of topsoil. This is a less than significant impact with application of existing codes and construction standards.

Construction and Operation

The soils at the subsurface profile of the site generally consists of relatively loose granular or soft to medium stiff cohesive surficial soils. The proposed project would involve the demolition of existing structures and infrastructure (e.g., pavement, buildings and underground utilities), excavation, site grading and foundations associated with the construction of new buildings, infrastructure, and roads. The loosening and exposure of soil would make the project site susceptible to erosion by rainfall and wind during construction.

As discussed further in Chapter 13, Hydrology and Water Quality, the project – during all phases of construction and operation – must comply with stringent erosion control and water quality measures and construction best practices to meet City water quality requirements related to discharges of pollutants from runoff. The project would also be required to comply with dust control measures as discussed further in Chapter 6, Air Quality to minimize dust emissions during construction activities. The project site is currently surrounded by hardscape surfaces and similar urban uses, limiting the potential for downstream/off-site erosion impacts on neighboring property. Compliance with all existing permit requirements and regulations will effectively mitigate potential erosion impacts during construction and operation activities to a **less than significant** level.

Impact GEO-5: The project is located on a geologic unit or soil that could be either unstable, or that could become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, collapse or expansive soils. This impact is considered less than significant with mitigation and compliance with applicable City Ordinances, CBC standards, and City General Plan policies.

As described in the Geotechnical Engineering Study, Geosphere Consultants conducted a total of five test borings at the project site with a machine power drill rig to collect soil samples. Laboratory tests were performed on selected samples from the borings to develop a subsurface profile of the soil and bedrock conditions at the project site. While Geosphere Consultants determined the project site to be geotechnically and geologically feasible for future development, the project site would still be subject to risks associated with local soils as described below.

Landslides

Please see Impact GEO-3 above.

Liquefaction and Subsidence

Ground effects related to liquefaction include vertical settlement, ground subsidence or voids below structures, soil bearing failure, and sand boils. The Geotechnical Engineering Study found that the project site is mapped in a zone of very high liquefaction susceptibility. The soils encountered in the subsurface investigation revealed a near-continuous layer of medium dense, granular sands between the depths of 17 and 32 feet in Boring B-5. Layers of potentially liquefiable granular materials between 3 and 8 feet thick were also encountered In Borings B-1, B-2, and B-4. These soils were determined to be potentially weak and compressible, and may not be suitable for foundation support of any but minor structures due to potential occurrences damaging future settlements, or would require that lower allowable foundation bearing pressures be used. A liquefaction analysis was conducted for these soils (more specifically on Boring B-5) using software LiquefyPro, Version 5. Compliance with General Plan polices, applicable CBC standards, and site specific geotechnical recommendations for the piles, ground improvements and structural slab foundation system during project design and construction would reduce the potential impacts from liquefaction to a **less than significant** level.

Lateral spreading

With respect to lateral spreading, Geosphere Consultants conducted a liquefaction analysis of the soils encountered in the subsurface investigation using software LiquefyPro, Version 5, as noted above. Based on that analysis, the project site was determined not be significantly susceptible to lateral spreading. Nonetheless, the project would still be required to comply with applicable CBC standards, site specific geotechnical recommendations and City General Plan policies during project design and construction to reduce potential impacts related to lateral spreading to a **less than significant** level.

Collapse

Strong seismic shaking is anticipated to occur during the design life of the project. To mitigate the shaking effects, all structures would be required to comply with the CBC requirements as a minimum per Section 15.08 of the City Municipal Code. Compliance with CBC standards, site specific geotechnical recommendations and applicable General Plan policies during project design and construction would reduce potential impacts to a **less than significant** level.

Expansive Soils

Based on visual observations and test boring results of the near-surface soils performed by Geosphere Consultants, the surface profile of the site generally consists of soils that are of medium high plasticity and have a moderately high potential for expansion. Expansive soils may impact the performance of foundations and site flatwork because expansive soil pressures may develop that can manifest primarily as seasonal heaving and settlement effects. Where such soils are not removed by site grading, Geosphere Consultants recommends implementation of moderate measures to accommodate potentially highly expansive soils, such as keeping subgrade surfaces moist before placement of concrete or pavement sections; deepened shallow foundations and use of stiffening elements such as interconnecting grade beams and use of a non-expansive fill layer below interior floor slabs and exterior flatwork as appropriate.

MM GEO-5.1 Final Geotechnical Evaluation

A construction level geotechnical evaluation shall be required for the project. The project shall be required to adhere to and incorporate all standards and recommended engineering measures to mitigate for liquefaction, expansive soils and other local soil constraints. The final geotechnical evaluation will be provided to the City for review and approval prior to the issuance of building permits.

Conclusion

With implementation of Mitigation Measure (MM) GEO-5.1 and adherence to local building standards, City engineering standards and applicable General Plan policies, potential impacts related to expansive soils would be reduced to a **less than significant** level because these soils would be removed, augmented or otherwise engineered as necessary. MM GEO-5.1 reflects a typical requirement for a design-level evaluation that is appropriately completed in conjunction with final plans.

As noted above, the site's geologic and soil constraints would be fully addressed through construction-level geotechnical recommendations and compliance with all applicable codes and regulations.

Impact GEO-6: The project could directly or indirectly destroy a unique paleontological resource or site or unique geologic features during construction. This impact is considered less than significant with mitigation incorporated.

Construction and Operation

There are no major or unique paleontological resources known to exist in the City, and the likelihood of encountering unique paleontological resources is low. However, development of the project could result in the discovery and disturbance of previously unknown or undiscovered paleontological resources. Should evidence of paleontological resources be encountered during grading and construction, adherence to General Plan policies, State, and federal historic preservation laws, regulations, and codes related to archaeological and paleontological resources would ensure the adequate protection of historic and pre-historic resources. Mitigation measure MM GEO-6.1 recognizes the need for paleontological monitoring to occur simultaneously with archaeological monitoring.

MM GEO-6.1 Inadvertent Discovery of Paleontological Resources

In the event that fossils or fossil-bearing deposits are discovered during construction activities, work shall be temporarily halted with a 50-foot radius of the discovered materials and workers should avoid altering the materials and their context until a qualified paleontologist has evaluated the situation and provided appropriate recommendations. Construction and potential impacts to the area(s) within a radius determined by the paleontologist shall not recommence until the assessment is complete.

If it is determined that the proposed development could damage unique paleontological resources, mitigation shall be implemented in accordance with Public Resources Code Section 21083.2 and Section 15126.4 of the CEQA Guidelines. Possible mitigation under Public Resources Code Section 21083.2 requires that reasonable efforts be made for

resources to be preserved in place or left undisturbed. If preservation in place is not feasible, the applicant shall mitigate significant effects. Excavation as mitigation shall be limited to those parts of resources that would be damaged or destroyed by a project. Possible mitigation under CEQA emphasizes preservation-in-place measures, including planning construction avoid paleontological sites, incorporating sites into parks and other open spaces, covering sites with stable soil, and deeding the site into a permanent conservation easement. Under CEQA Guidelines, when preservation in place is not feasible, data recovery through excavation shall be conducted with a data recovery plan in place.

Implementation of MM GEO-6.1 and compliance with General Plan policies will effectively mitigate potential impacts to paleontological resources by ceasing construction if they are encountered to assess and mitigate consistent with the Public Resources Code. Potential impacts to paleontological resources would therefore be reduced to a **less than significant** level.

10.4.7 Cumulative Impact Analysis

Because geologic impacts are site-specific and highly dependent upon the structural characteristics of individual projects, cumulative geologic hazards and soils impacts are generally confined to the project site and immediate vicinity.

Impact GEO-7: The project will not contribute incrementally or combine with the effects of other projects to create significant geologic impacts. This is a less than significant impact.

Most geologic-related impacts from development are site-specific and, if properly designed, would not result in worsening of the environmental or public health and safety. Cumulative development would be subject to site-specific geologic and/or soils constraints; pursuant to the City of East Palo Alto requirements, a registered geotechnical engineer would investigate site-specific conditions and minimize exposure to hazards or constraints with implementation of their recommendations.

Cumulative development could also potentially involve the exposure of an increased number of people and/or structures to risk of earthquakes and their associated geologic hazards. However, all new construction would be required to comply with the most current CBC, which establishes building standards to minimize risk based on the geologic and seismic conditions of the region in which a project is located.

With administration of these requirements, the implementation of City Ordinances, General Plan Policies and adherences to CBC requirements, the project would not have a cumulatively considerable contribution to cumulative geologic, soils, seismic hazards and paleontological resource impacts.

10.5 References

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11 Greenhouse Gas Emissions

11.1 Introduction

This section describes effects on climate change and greenhouse gas emissions that would be caused by implementation of the proposed project. Information used to prepare this section came from the following resources:

- California Emissions Estimator Model (CalEEMod) projections (see **Appendix B**)

The study area for climate change and the analysis of greenhouse gas (GHG) emissions is broad because climate change is influenced by world-wide emissions and their global effects. However, the study area is also limited by the CEQA Guidelines [Section 15064(d)], which directs lead agencies to consider an "indirect physical change" only if that change is a reasonably foreseeable impact that may be caused by the proposed project. This analysis limits discussion to those physical changes to the environment that are not speculative and are reasonably foreseeable.

11.2 Scoping Issues Addressed

During the NOP public comment and scoping period for the proposed project, no comments were received regarding greenhouse gas and climate change impacts.

11.3 Environmental Setting

11.3.1 Climate Change and Greenhouse Gases

Certain gases in the earth's atmosphere classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

The primary GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Examples of fluorinated gases include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3); however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of GHGs exceeding natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the Earth's climate, known as global climate change or global warming.

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs), which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have

relatively short atmospheric lifetimes (approximately one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of a GHG molecule is dependent on multiple variables and cannot be pinpointed, more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms of carbon sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (Intergovernmental Panel on Climate Change, 2013). Table 11-1: Description of Greenhouse Gases, describes the primary GHGs attributed to global climate change, including their physical properties.

Table 11-1: Description of Greenhouse Gases

Greenhouse Gas	Description
Carbon Dioxide (CO_2)	CO_2 is a colorless, odorless gas that is emitted naturally and through human activities. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. The atmospheric lifetime of CO_2 is variable because it is readily exchanged in the atmosphere. CO_2 is the most widely emitted GHG and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other GHGs.
Nitrous Oxide (N_2O)	N_2O is largely attributable to agricultural practices and soil management. Primary human-related sources of N_2O include agricultural soil management, sewage treatment, combustion of fossil fuels, and adipic and nitric acid production. N_2O is produced from biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years. The Global Warming Potential of N_2O is 298.
Methane (CH_4)	CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Methane is the major component of natural gas, approximately 87 percent by volume. Human-related sources include fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. Natural sources of CH_4 include wetlands, gas hydrates, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. The atmospheric lifetime of CH_4 is approximately 12 years and the Global Warming Potential is 25.
Hydrofluoro-carbons (HFCs)	HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of CFCs and HCFCs gains momentum. The 100-year Global Warming Potential of HFCs range from 124 for HFC-152 to 14,800 for HFC-23.
Perfluoro-carbons (PFCs)	PFCs have stable molecular structures and only break down by ultraviolet rays approximately 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Global Warming Potentials range from 6,500 to 9,200.
Chlorofluoro-carbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. The Montreal Protocol

Greenhouse Gas	Description
	on Substances that Deplete the Ozone Layer prohibited their production in 1987. Global Warming Potentials for CFCs range from 3,800 to 14,400.
Sulfur Hexafluoride (SF_6)	SF_6 is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas. The Global Warming Potential of SF_6 is 23,900.
Hydrochloro-fluorocarbons (HCFCs)	HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, HCFCs are subject to a consumption cap and gradual phase out. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The 100-year Global Warming Potentials of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b.
Nitrogen Trifluoride (NF_3)	NF_3 was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. This gas is used in electronics manufacture for semiconductors and liquid crystal displays. It has a high global warming potential of 17,200.

Source: Compiled from U.S. EPA, *Overview of Greenhouse Gases*, April 11, 2018 (https://www.epa.gov/ghgemissions/overview-greenhouse-gases); U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016*, 2018; Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis*, 2007; National Research Council, Advancing the Science of Climate Change, 2010; U.S. EPA, *Methane and Nitrous Oxide Emission from Natural Sources*, April 2010.

11.4 Applicable Regulations, Plans, and Standards

11.4.1 Federal

To date, national standards have not been established for nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, requires the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

U.S. Environmental Protection Agency Endangerment Finding

The U.S. Environmental Protection Agency's (EPA) authority to regulate GHG emissions stems from the U.S. Supreme Court decision in Massachusetts v. EPA (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Federal Clean Air Act (FCAA) and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the EPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing FCAA and the EPA's assessment of the scientific evidence that form the basis for the EPA's regulatory actions.

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling discussed above, Executive Order 13432 was issued in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, an Executive Memorandum was issued directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks. It should be noted that the EPA is currently proposing to freeze the vehicle fuel efficiency standards at their planned 2020 level (37 mpg), canceling any future strengthening (currently 54.5 mpg by 2026).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baseline.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.

In 2018, President Trump and the EPA have stated their intent to halt various Federal regulatory activities to reduce GHG emission, including the phase two program. California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. On September 27, 2019, the EPA and the NHTSA published the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program." (84 Fed. Reg. 51,310 (Sept. 27, 2019.) The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the EPA and NHTSA finalized rulemaking for SAFE Part Two sets CO_2 emissions standards and corporate average fuel economy (CAFE) standards for passenger vehicles and light duty trucks, covering model years 2021-2026.

Presidential Executive Order 13783

Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth issued on March 28, 2017, orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of CO_2, N_2O, and CH_4.

11.4.2 State

California Air Resources Board

The California Air Resources Board (CARB) is responsible for the coordination and oversight of State and local air pollution control programs in California. Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness about climate change and its potential for severe long-term adverse environmental, social, and economic effects. California is a significant emitter of CO_2e in the world and produced 440 million gross metric tons of CO_2e in 2015. In the State, the transportation sector is the largest emitter of GHGs, followed by industrial operations such as manufacturing and oil and gas extraction.

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark AB 32 California Global Warming Solutions Act of 2006, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 building efficiency standards and Title 20 appliance energy standards, were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major legislation related to GHG emissions reduction.

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

AB 32 instructs the CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. AB 32 also directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. It set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.

CARB Scoping Plan

CARB adopted the Scoping Plan to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that would be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and

regulations (referred to as "business-as-usual"). The Scoping Plan evaluates opportunities for sector-specific reductions, integrates early actions and additional GHG reduction measures by both CARB and the State's Climate Action Team, identifies additional measures to be pursued as regulations, and outlines the adopted role of a cap-and-trade program. Additional development of these measures and adoption of the appropriate regulations occurred through the end of 2013. Key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent by 2020.
- Developing a California cap-and-trade program that links with other programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions (adopted in 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets (several sustainable community strategies have been adopted).
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, heavy-duty truck measures, the Low Carbon Fuel Standard (amendments to the Pavley Standard adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).
- Creating targeted fees, including a public goods charge on water use, fees on gasses with high global warming potential, and a fee to fund the administrative costs of California's long-term commitment to AB 32 implementation.

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relied on emissions projections updated considering current economic forecasts that accounted for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This update reduced the projected 2020 emissions from 596 million metric tons of CO_2e ($MMTCO_2e$) to 545 $MMTCO_2e$. The reduction in forecasted 2020 emissions means that the revised business-as-usual reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent, down from 29 percent. CARB also provided a lower 2020 inventory forecast that incorporated State-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from business-as-usual needed to achieve the goals of AB 32 is approximately 16 percent.

CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG emissions reductions necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32.

In January 2017, CARB released the 2017 Climate Change Scoping Plan Update (Second Update) for public review and comment (CARB, 2017). The Second Update sets forth CARB's strategy for achieving the State's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below). The Second Update was approved by CARB's Governing Board on December 14, 2017.

Senate Bill 32 (California Global Warming Solutions Act of 2006: Emissions Limit)

Signed into law in September 2016, SB 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

With SB 32, the Legislature passed companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017, CARB adopted a second update to the Scoping Plan (CARB, 2017b). The 2017 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by Executive Order B-30-15 and codified by SB 32. Other objectives listed in the 2017 Scoping Plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support the Clean Power Plan and other Federal actions.

SB 375 (The Sustainable Communities and Climate Protection Act of 2008)

Signed into law on September 30, 2008, SB 375 provides a process to coordinate land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction goals established by AB 32. SB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies. The applicable sustainable community strategy in the Bay Area is Plan Bay Area 2040.

AB 1493 (Pavley Regulations and Fuel Efficiency Standards)

AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the by the U.S. District Court for the District of Columbia in 2011. The regulations establish one set of emission standards for model years 2009–2016 and a second set of emissions standards for model years 2017 to 2025. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO_2e emissions and 75 percent fewer smog-forming emissions.

SB 1368 (Emission Performance Standards)

SB 1368 is the companion bill of AB 32, which directs the California Public Utilities Commission (CPUC) to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 limits carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. The new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The CPUC adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, for 1,100 pounds of CO_2 per megawatt-hour.

SB 1078 and SBX1-2 (Renewable Electricity Standards)

SB 1078 required California to generate 20 percent of its electricity from renewable energy by 2017. This goal was accelerated with SB 107, which changed the due date to 2010 instead of 2017. On November

17, 2008, Executive Order S-14-08 established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Executive Order S-21-09 also directed CARB to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. SB X1-2 codified the 33 percent by 2020 goal.

SB 350 (Clean Energy and Pollution Reduction Act of 2015)

Signed into law on October 7, 2015, SB 350 implements the goals of Executive Order B-30-15. The objectives of SB 350 are to increase the procurement of electricity from renewable sources from 33 percent to 50 percent (with interim targets of 40 percent by 2024, and 45 percent by 2027) and to double the energy efficiency savings in electricity and natural gas end uses of retail customers through energy efficiency and conservation. SB 350 also reorganizes the Independent System Operator to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

AB 398 (Market-Based Compliance Mechanisms)

Signed on July 25, 2017, AB 398 extended the duration of the Cap-and-Trade program from 2020 to 2030. AB 398 required CARB to update the Scoping Plan and for all GHG rules and regulations adopted by the State. It also designated CARB as the statewide regulatory body responsible for ensuring that California meets its statewide carbon pollution reduction targets, while retaining local air districts' responsibility and authority to curb toxic air contaminants and criteria pollutants from local sources that severely impact public health. AB 398 also decreased free carbon allowances over 40 percent by 2030 and prioritized Cap-and-Trade spending to various programs including reducing diesel emissions in impacted communities.

SB 150 (Regional Transportation Plans)

Signed on October 10, 2017, SB 150 aligns local and regional GHG reduction targets with State targets (i.e., 40 percent below their 1990 levels by 2030). SB 150 creates a process to include communities in discussions on how to monitor their regions' progress on meeting these goals. The bill also requires the CARB to regularly report on that progress, as well as on the successes and the challenges regions experience associated with achieving their targets. SB 150 provides for accounting of climate change efforts and GHG reductions and identify effective reduction strategies.

SB 100 (California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases) Signed into Law in September 2018, SB 100 increased California's renewable electricity portfolio from 50 to 60 percent by 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs using executive orders. Although not regulatory, they set the State's tone and guide the actions of State agencies.

Executive Order S-3-05

Executive Order S-3-05 was issued on June 1, 2005, which established the following GHG emissions reduction targets:

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07

Issued on January 18, 2007, Executive Order S-01-07 mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. The executive order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. CARB adopted the LCFS on April 23, 2009.

Executive Order S-13-08

Issued on November 14, 2008, Executive Order S-13-08 facilitated the California Natural Resources Agency development of the 2009 California Climate Adaptation Strategy. Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order S-14-08

Issued on November 17, 2008, Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the Renewable Electricity Standard on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

Executive Order S-21-09

Issued on July 17, 2009, Executive Order S-21-09 directs CARB to adopt regulations to increase California's RPS to 33 percent by 2020. This builds upon SB 1078 (2002), which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006), which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Executive Order B-30-15

Issued on April 29, 2015, Executive Order B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO_2e ($MMTCO_2e$). The 2030 target acts as an interim goal on the way to achieving reductions of 80 percent below 1990 levels by 2050, a goal set by

Executive Order S-3-05. The executive order also requires the State's climate adaptation plan to be updated every three years and for the State to continue its climate change research program, among other provisions. With the enactment of SB 32 in 2016, the Legislature codified the goal of reducing GHG emissions by 2030 to 40 percent below 1990 levels.

Executive Order B-55-18

Issued on September 10, 2018, Executive Order B-55-18 establishes a goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal is in addition to the existing statewide targets of reducing GHG emissions. The executive order requires CARB to work with relevant State agencies to develop a framework for implementing this goal. It also requires CARB to update the Scoping Plan to identify and recommend measures to achieve carbon neutrality. The executive order also requires State agencies to develop sequestration targets in the Natural and Working Lands Climate Change Implementation Plan.

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat, even with rapid population growth.

Title 20 Appliance Efficiency Regulations

The appliance efficiency regulations (California Code of Regulations [CCR] Title 20, Sections 1601-1608) include standards for new appliances. Twenty-three categories of appliances are included in the scope of these regulations. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

Title 24 Building Energy Efficiency Standards

California's Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR Title 24, Part 6), was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2016 Building Energy Efficiency Standards approved on January 19, 2016 went into effect on January 1, 2017. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018 and took effect on January 1, 2020. Under the 2019 standards, residential dwellings will be required to use approximately 53 percent less energy and nonresidential buildings will be required to use approximately 30 percent less energy than buildings under the 2016 standards.

Title 24 California Green Building Standards Code

The California Green Building Standards Code (CCR Title 24, Part 11 code) commonly referred to as CALGreen, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and nonresidential buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides

voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. The latest CALGreen Code took effect on January 1, 2020 (2019 CALGreen). The 2019 CALGreen standards continue to improve upon the existing standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The new 2019 CALGreen standards require residential buildings are required to be solar ready through solar panels (refer to Section 110.10 in the 2019 Building Energy Efficiency Standards for more details).

11.4.3 Regional

Bay Area Air Quality Management District Thresholds

The BAAQMD is the regional agency with jurisdiction over the nine-county region located in the Basin. The Association of Bay Area Governments (ABAG), Metropolitan Transportation Commission (MTC), county transportation agencies, cities and counties, and various nongovernmental organizations also join in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs.

Under CEQA, the BAAQMD is a commenting responsible agency on air quality within its jurisdiction or impacting its jurisdiction. The BAAQMD reviews projects to ensure that they would: (1) support the primary goals of the latest Air Quality Plan; (2) include applicable control measures from the Air Quality Plan; and (3) not disrupt or hinder implementation of any Air Quality Plan control measures.

In May 2010, the BAAQMD adopted its updated California Environmental Quality Act (CEQA) Air Quality Guidelines as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. The BAAQMD CEQA Guidelines include methodologies and thresholds for addressing project and program level air quality and GHG emissions. The Guidelines were called into question by an order issued March 5, 2012, in California Building Industry Association (CBIA) v. BAAQMD (Alameda Superior Court Case No. RGI0548693). The Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds. The court also issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD had complied with CEQA. Notably, the court's ruling was based solely on BAAQMD's failure to comply with CEQA. The court did not reach any issues relating to the validity of the scientific reasoning underlying the recommended significance thresholds.

In August 2013, the Appellate Court struck down the lower court's order to set aside the thresholds. CBIA sought review by the California Supreme Court on three issues, including the appellate court's decision to uphold the BAAQMD's adoption of the thresholds, and the Court granted review on just one: Under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users of a proposed project? In December 2015, the California Supreme Court confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. The BAAQMD published a new version of the Guidelines dated May 2017, which includes revisions made to address the Supreme Court's opinion. The BAAQMD is currently working to revise any outdated information in the Guidelines as part of its update to the CEQA Guidelines and thresholds of significance.

Clean Air Plan

Air quality plans developed to meet federal requirements are referred to as State Implementation Plans. The federal and State Clean Air Acts require plans to be developed for areas designated as nonattainment (with the exception of areas designated as nonattainment for the State PM10 standard). The 2017 Clean Air Plan: Spare the Air, Cool the Climate was adopted on April 19, 2019, by the BAAQMD.

The 2017 Clean Air Plan provides a regional strategy to protect public health and protect the climate. To protect public health, the plan describes how the BAAQMD will continue progress toward attaining all State and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate, the 2017 Clean Air Plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious greenhouse gas (GHG) reduction targets for 2030 and 2050 and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets.

The 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other "super-GHGs" that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

11.4.4 Local

City of East Palo Alto Climate Action Plan

The City of East Palo Alto (City) finalized a Climate Action Plan (CAP) in December 2011 to present goals and measures for reducing the City's GHG emissions. A 2005 emissions inventory determined that the City produced 140,465 metric tons (MT) of CO2e. Transportation accounted for approximately 63 percent to the City's total emissions.14

Given the high projected business-as-usual emissions forecast for 2020, the City's emissions reduction goal was established as 15 percent below 2005 levels by 2020 through implementation of the CAP. To achieve this emissions reduction goal, the CAP structured objectives around four general categories: energy use in buildings, transportation and land use, waste, and municipal operations.

City of East Palo Alto General Plan

Project relevant general plan policies for greenhouse gas emissions are addressed in this section. Where inconsistencies exist, if any, they are addressed in the respective impact analysis below. Relevant General Plan Policies that directly address reducing and avoiding greenhouse gas emissions impacts include the following:

Parks, Open Space, and Conservation Element

Goal POC 7: Promote a sustainable energy system.

- Policy 7.1: Citywide building energy efficiency. Promote and encourage citywide building energy efficiency through strategies that may include the following:
    - Retrofits of buildings with energy-efficient technology

- High energy performance in new buildings, in excess of CALgreen when possible.

- Policy 7.2: Municipal building energy efficiency. Strive for high levels of energy efficiency in municipal facilities.
- Policy 7.3:Energy-efficient infrastructure. Whenever possible, use energy-efficient models and technology when replacing or providing new city infrastructure such as streetlights, traffic signals, water conveyance pumps, or other public infrastructure.

Goal POC 8: Adapt to and mitigate climate change impacts.

- Policy 8.8: Sustainable building code. Encourage changes in building code to reflect emphasis on health, sustainability, and energy efficiency. Look to other the codes of other cities who are leaders on these topics.
- Policy 8.9: Efficiency incentives. Provide incentives for households to improve resource efficiency, such as rebate programs and giveaways for items such as low-flow showerheads and electrical outlet insulation.
- Policy 8.10: Green building credentialing and incentives. Provide incentives for contractors to obtain Leadership in Energy & Environmental Design (LEED) professional credentials as well as LEED certification for their buildings.
- Policy 8.11: Green building certification. Require that new residential, commercial, or mixed-use buildings over 20,000 square feet earn LEED Silver certification (or equivalent) including meeting the minimum CALGreen code requirements.

Land Use and Urban Design

Goal LU 1: Maintain an urban form and land use pattern that enhances the quality of life and meets the community's vision for is future.

- Policy 1.1: Balanced land uses. Create a balanced land use pattern to support a jobs-housing balance, minimize traffic and vehicle miles traveled, reduce greenhouse gas emissions, and promote a broad range of housing choices, retail businesses, employment opportunities, cultural venues, educational institutions and other supportive land uses.
- Policy 1.5: Access to daily activities. Strive to create development patterns such that the majority of residents are within one-half mile walking distance of a variety of neighborhood-serving uses, such as supermarkets, restaurants, churches, cafes, dry cleaners, laundromats, farmers markets, banks, hair care, pharmacies and similar uses.

Goal LU 4: Expand multi-family housing.

- Policy 4.5: Green neighborhoods. Encourage new multi-family developments to build to a green neighborhood, rating standard and apply for certification from a program, such as LEED for Neighborhood Development, LEED-NC, or other programs that certify green buildings and neighborhoods.

11.5 Environmental Impacts and Mitigation Measures

11.5.1 Significance Criteria

According to the adopted Appendix G of the *State CEQA Guidelines*, impacts related to GHG emissions from a proposed project would be significant if the project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Bay Area Air Quality Management District's (BAAQMD's) approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move towards climate stabilization. If a project would generate GHG emissions above the threshold level, it would be considered to contribute considerably to a significant cumulative impact. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require an Air District permit to operate. If annual emissions of operational-related GHGs exceed these levels, the proposed project would result in a cumulatively considerable contribution to a cumulatively significant impact to global climate change. BAAQMD is currently working to provide updated threshold guidance to address updated GHG regulations such as SB 32 and case law that has found efficiency metric thresholds based on state-wide data must be supported by substantial evidence that the threshold is appropriate for a specific location and specific project type.

BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, the BAAQMD recommends quantification and disclosure of construction GHG emissions. The BAAQMD also recommends that the Lead Agency should make a determination on the significance of these construction generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals, as required by the Public Resources Code, Section 21082.2. The Lead Agency is encouraged to incorporate best management practices to reduce GHG emissions during construction, as feasible and applicable.

BAAQMD's recommended 2020 operational thresholds are as follows:

Compliance with a Qualified Climate Action Plan or

- Meet one of the following thresholds:
  - 1,100 MT CO_2e/year (yr); or
  - 4.6 $MTCO_2e$/service population (sp)/yr (residents and employees)

BAAQMD is currently working to provide updated threshold guidance to address updated GHG regulations such as SB 32 and case law that has found efficiency metric thresholds based on state-wide data must be supported by substantial evidence that the threshold is appropriate for a specific location and specific project type.

11.5.2 Study Methodology

Global climate change is, by definition, a cumulative impact of GHG emissions. Therefore, there is no project-level analysis. The baseline against which to compare potential impacts of the project includes the natural and anthropogenic drivers of global climate change, including world-wide GHG emissions from human activities which almost doubled between 1970 and 2010 from approximately 27 gigatonnes

(Gt) of CO_2/year to nearly 49 $GtCO_2$/year.[1] As such, the geographic extent of climate change and GHG emissions' cumulative impact discussion is worldwide.

For CEQA analyses, project-related GHG impacts can be categorized as either direct or indirect. Direct emissions refer to those emitted by stationary sources at the project site or caused by project activity on-site, and these emissions are normally within control of the project sponsor or applicant. Indirect emissions include those emissions that are not within the direct control of the project sponsor or applicant, but may occur as a result of the project, such as the motor vehicle emissions induced by the project. Indirect emissions include emissions from any off-site facilities used for project support as a result of the construction or operation of a project, and these emissions are likely to occur outside the control of the project far off-site or even outside of California.

The proposed project's construction and operational emissions were calculated using the California Emissions Estimator Model version 2016.3.2 (CalEEMod). Details of the modeling assumptions and emission factors are provided in **Appendix B**. For construction, CalEEMod calculates emissions from off-road equipment usage and on-road vehicle travel associated with haul, delivery, and construction worker trips. The project's construction-related GHG emissions were forecasted based on the proposed construction schedule and applying the mobile-source and fugitive dust emissions factors derived from CalEEMod. The project's construction-related GHG emissions would be generated from off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles

The proposed project's operations-related GHG emissions would be generated by vehicular traffic, area sources (e.g., landscaping maintenance, consumer products), electrical generation, natural gas consumption, water supply and wastewater treatment, and solid waste. Details of the modeling assumptions and emission factors are provided in **Appendix B,** and a summary of adjustments is provided below.

CalEEMod default emission factors incorporate compliance with some, but not all, applicable rules and regulations regarding energy efficiency and vehicle fuel efficiency, and other GHG reduction policies, as described in the CalEEMod User's Guide (CAPCOA, 2016). The reductions obtained from each regulation and the source of the reduction amount used in the analysis are described below.

The following regulations are incorporated into the CalEEMod emission factors:

- Pavley I motor vehicle emission standards
- Low Carbon Fuel Standard (LCFS)
- 2016 Title 24 Energy Efficiency Standards

The following regulations have not been incorporated into the CalEEMod emission factors:

- Pavley II (LEV III) Advanced Clean Cars Program (extends to model year 2025)
- Renewable Portfolio Standards (RPS)
- Green Building Code Standards (indoor water use)

[1] Intergovernmental Panel on Climate Change, *Climate Change 2014 Mitigation of Climate Change Working Group III Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, 2014.

- California Model Water Efficient Landscape Ordinance (Outdoor Water)
- 2019 Title 24 Energy Efficiency Standards (effective January 1, 2020)

As RPS is not accounted for in the current version of CalEEMod. Reductions from RPS are addressed by revising the electricity emission intensity factor in CalEEMod to account for the utility complying with the 33 percent renewable mandate by 2020. As of 2018 (latest available), Pacific Gas and Electric's (PG&E) power mix was at 39 percent renewable energy and will be required to achieve the 60 percent renewable energy goal by 2030 established by SB 100. The CalEEMod carbon intensity factor was adjusted within the model to represent PG&E's current emissions rate.

Energy savings from water conservation resulting from the Green Building Code Standards for indoor water use and California Model Water Efficient Landscape Ordinance for outdoor water use are not included in CalEEMod. The Water Conservation Act of 2009 mandates a 20 percent reduction in urban water use that is implemented with these regulations. Benefits of the water conservation regulations are applied in the CalEEMod mitigation component. Adjustments were also made for project design features that would reduce GHG emissions. The proposed project would also be constructed in conformance with CALGreen, which requires high-efficiency water fixtures for indoor plumbing and water efficient irrigation systems.

The 2019 Building Energy Efficiency Standards (adopted on May 9, 2018) took effect on January 1, 2020. Under the 2019 standards, homes would use about 53 percent less energy and nonresidential buildings would use about 30 percent less energy than buildings under the 2016 standards. Adjustments were made for project design features that would reduce GHG emissions.

The mitigated output from CalEEMod show reductions from existing regulatory requirements and project design features that are termed "mitigation" within the model; however, those modeling components associated with locational measures and compliance with existing regulations are not considered mitigation under CEQA, but rather are treated as project design features. The proposed project would incorporate design features and would obtain benefits from its location that would reduce project vehicle miles traveled compared to default values. The measures incorporated into the CalEEMod modeling and mitigation component include:

- **LUT- 1 Increase Density**: The project includes approximately 154 dwelling units per acre compared to the existing use with approximately 41 dwelling units per acre.
- **LUT-3 Increase Diversity of Land Uses**: The measure requires at least three different land uses within 0.25 mile. The project proposes a mixed-use infill project with commercial and residential, in an area surrounded by residential, office, commercial, and hotel.
- **SDT-1 Improve Pedestrian Access**: This measure provides pedestrian access linking the project to other areas to encourage walking. The measure requires both on-site and off-site pedestrian infrastructure. The project includes active transportation features that would meet the criteria of this measure. For example, the project would provide an enhanced pathway. The sidewalks would be ten feet wide and non-contiguous to the street, where practical. Internally, the project would develop interconnected pedestrian walkways that provide direct/convenient access between the commercial, retail, and hotel uses and to the surrounding street fronting sidewalks.

The emissions modeling also includes mitigation measures that have been identified below. GHG mitigation measures includes implementation of a Commute Trip Reduction (CTR)/ Transportation

Demand Management (TDM) program (Mitigation Measure GHG-1.1). The reductions attributable to these measures in CalEEMod are derived from methodologies compiled in the CAPCOA report Quantifying GHG Measures. Each measure was assessed to determine its consistency with CAPCOA criteria for the use of the measure.

11.5.3 Summary of No and/or Beneficial Impacts

Not applicable. The project has the potential for impacts based on the above criteria.

11.5.4 Impacts of the Proposed Project

Impact GHG-1: The project could generate greenhouse gas emissions, either directly or indirectly, that could have a significant impact on the environment. This is a less than significant impact with mitigation incorporated.

Short-Term Construction Greenhouse Gas Emissions

Construction of the project would result in direct emissions of CO_2, N_2O, and CH_4 from the operation of construction equipment and the transport of materials and construction workers to and from the project site. BAAQMD does not have a threshold for construction GHG emissions, which are one-time, short-term emissions and therefore would not significantly contribute to long-term cumulative GHG emissions impacts of the proposed project. However, the BAAQMD advises that construction GHG should be disclosed and a determination on the significance of construction GHG emissions in relation to meeting AB 32 GHG reduction goals should be made. Total GHG emissions generated during all phases of construction were combined and are presented in Table 11-2: Construction Greenhouse Gas Emissions. The CalEEMod outputs are contained within the **Appendix B**.

Table 11-2: Construction Greenhouse Gas Emissions

Construction Year	Project ($MTCO_2e$)[1]
2022	655
2023	1,016
2024	1,115
2025	397
Total	**3,183**

Source: CalEEMod version 2016.3.2. Refer to **Appendix B** for model outputs.

1. Due to rounding, total $MTCO_2e$ may be marginally different from CalEEMod output. $MTCO_2e$ = metric tons of carbon dioxide equivalent.
2. 2022 includes demolition, site preparation, and grading which are not as intensive as the larger/heavier building construction activity. These construction phases have significantly fewer worker and vendor trips. The years 2023-2024 are primarily building construction which includes higher numbers of larger equipment. 2025 only includes five months of construction and primarily includes the architectural coating phase.

As shown in Table 11-2, project construction-related activities would generate approximately 3,183 $MTCO_2e$ of GHG emissions over the course of construction. One-time, short-term construction GHG emissions are typically summed and amortized over the project's lifetime (assumed to be 30 years) It is reasonable to look at a 30-year time frame for buildings since this is a typical interval before a new building requires the first major renovation.[2] The amortized project emissions would be 106 $MTCO_2e$ per

[2] International Energy Agency, *Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings*, March 2008.

year. Once construction is complete, the generation of construction-related GHG emissions would cease.

Long-Term Operational Greenhouse Gas Emissions

Operational or long-term emissions would occur over the project's life. GHG emissions would result from direct emissions such as project generated vehicular traffic, on-site combustion of propane, and operation of any landscaping equipment. Operational GHG emissions would also result from indirect sources, such as off-site generation of electrical power over the life of the project, the energy required to convey water to, and wastewater from the project site, the emissions associated with solid waste generated from the project site, and any fugitive refrigerants from air conditioning or refrigerators. Table 11-3: Operational Unmitigated Greenhouse Gas Emissions, summarizes the total GHG emissions associated with the project.

Table 11-3: Operational Unmitigated Greenhouse Gas Emissions

Category	$MTCO_2e$[1]
Existing Use	
Area Source	12.79
Energy	226.83
Mobile	1,159.82
Waste	37.24
Water and Wastewater	20.27
Total Existing [2]	**1,456.95**
Unmitigated Proposed Project	
Area Source	48.09
Energy	587.64
Mobile	3,265.64
Stationary	0.0
Waste	142.60
Water and Wastewater	76.91
Total Project[2]	**4,120.88**
Net Emissions	
Total Project[2]	**2,664**
Threshold	**1,100**
Exceeds Threshold?	**Yes**

Source: CalEEMod version 2016.3.2. Refer to **Appendix B** for model outputs.
1. Emissions were calculated using CalEEMod version 2016.3.2.
2. Emissions may not total due to rounding.

Below is a description of the primary sources of operational emissions:

Area Sources. Area source emissions occur from architectural coatings, landscaping equipment, and consumer products. Landscaping is anticipated to occur throughout the proposed lodging area. Additionally, the primary emissions from architectural coatings are volatile organic compounds, which are relatively insignificant as direct GHG emissions. The project's area sources would be 48.09 $MTCO_2eq/yr$ (refer to Table 11-3).

Energy Consumption. Energy consumption consists of emissions from project consumption of electricity and natural gas. The project would result in 587.64 $MTCO_2e/yr$ from energy consumption (refer to Table 11-3).

Mobile Sources. Mobiles sources from the project were calculated with CalEEMod based on the trip generation from the project Traffic Study. As shown in Table 11-3, the mobile source emissions from the project would be 3,256.64 $MTCO_2eq/yr$.

Solid Waste. Solid waste releases GHG emissions in the form of methane when these materials decompose. The project would result in 142.60 $MTCO_2e/yr$ from solid waste (refer to Table 11-3).

Water and Wastewater. GHG emissions from water demand would occur from electricity consumption associated with water conveyance and treatment. The project would result in 76.91 $MTCO_2e/yr$ from water and wastewater conveyance and treatment (refer to Table 11-3).

Table 11-3 shows that unmitigated emissions from the development of up to 605 dwelling units and retail uses would potentially exceed the BAAQMD GHG threshold of 1,100 $MTCO_2e$ per year. Implementation of MM GHG-1.1 would be required to reduce GHG emissions below BAAQMD GHG threshold. MM GHG-1.1 requires the project Applicant to prepare a Commute Trip Reduction (CTR)/Transportation Demand Management (TDM) plan to minimize vehicle trips and mobile emissions. Additionally, as discussed in Section 7, Air Quality, MM AQ-2.1 and MM AQ-3.1 would reduce construction emissions. These include minimizing idling times to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]), all construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications, and utilizing Tier 4 final construction equipment. Additionally, BAAQMD Regulation 6, Rule 3 prohibits the construction of wood burning appliances/fireplaces, which would reduce area source emissions.

Project emissions with implementation of MM GHG-1.1 are shown in Table 11-4: Mitigated Operational Greenhouse Gas Emissions. MM GHG-1.1 requires a CTR/TDM plan to minimize vehicle trips and mobile emissions and zero net energy buildings. The CTR/TDM program would discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. With implementation of MM GHG-1.1, project GHG emissions would be reduced to a **less than significant level**.

Table 11-4: Mitigated Operational Greenhouse Gas Emissions

Category	$MTCO_2e$[1]
Existing	***1,456.95***
Mitigated Project Emissions	

Area Source	7.53
Energy	499.60
Mobile	1,843.45
Stationary	0.0
Waste	71.30
Water and Wastewater	62.45
Total Project[2]	**2,484.33**
Net	**1,027.38**
Threshold	**1,100**
Exceeds Threshold?	**No**

Source: CalEEMod version 2016.3.2. Refer to **Appendix B** for model outputs.
1. Emissions were calculated using CalEEMod version 2016.3.2.
2. Emissions may not total due to rounding.

It should be noted that the operational GHG emissions incorporate adjustments for project energy consumption based on the 2019 Title 24 Part 6 (Building Energy Efficiency Standards). The standards also require updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa), residential and nonresidential ventilation requirements, and nonresidential lighting requirements that would cut residential energy use by more than 50 percent (with solar) and nonresidential energy use by 30 percent. The standards also encourage demand responsive technologies including battery storage and heat pump water heaters and improve the building's thermal envelope through high performance attics, walls and windows to improve comfort and energy savings (California Energy Commission, March 2018). The project would also comply with the appliance energy efficiency standards in Title 20 of the California Code of Regulations. The Title 20 standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances. The project would be constructed according to the standards for high-efficiency water fixtures for indoor plumbing and water efficient irrigation systems required in 2019 Title 24, Part 11 (CALGreen).

At the State and global level, improvements in technology, policy, and social behavior can also influence and reduce operational emissions generated by a project. The State is currently on a pathway to achieving the Renewable Portfolio Standards goal of 33 percent renewables by 2020 and 60 percent renewables by 2030 per SB 100. Despite these goals, the majority of the project's emissions would still be from mobile and energy sources. Future mobile source emissions are greatly dependent on changes in vehicle technology, fuels, and social behavior, which can be influenced by policies to varying degrees. Taking known future policies into account, CARB estimates that over 90 percent of future vehicles in San Mateo County would still run on gasoline even with increased electric vehicle mode share (California Air Resources Board, 2017). This is assumed to also be applicable to the project vehicle fleet, absent data that may suggest otherwise. Due to these external factors, average emissions from transportation in 2050 would mostly still generate GHG emissions, but the quantity is uncertain in light of potential changes in technology and policy over the next 30 years.

The majority of project emissions (approximately 94 percent) would occur from mobile and energy sources. As noted above, energy and mobile sources are targeted by statewide measures such as low carbon fuels, cleaner vehicles, strategies to promote sustainable communities and improved transportation choices that result in reducing VMT, continued implementation of the Renewable Portfolio Standard (the target is now set at 60 percent renewables by 2030), and extension of the Cap and Trade program (requires reductions from industrial sources, energy generation, and fossil fuels). The Cap and Trade program covers approximately 85 percent of California's GHG emissions as of January 2015. The statewide cap for GHG emissions from the capped sectors (i.e., electricity generation, industrial sources, petroleum refining, and cement production) commenced in 2013 and will decline approximately three percent each year, achieving GHG emission reductions throughout the program's duration. The passage of AB 398 in July 2017 extended the duration of the Cap and Trade program from 2020 to 2030. With continued implementation of various statewide measures, the project's operational energy and mobile source emissions would continue to decline in the future.

Project emissions are shown in Table 11-4. Impacts are **less than significant** with mitigation. Project-related GHG emissions would not result in a cumulatively considerable contribution to the significant cumulative impact of climate change.

MM GHG-1.1 Transportation Demand Management Plan

Prior to approval of project entitlements for future residential uses, the project applicant shall prepare qualifying Commute Trip Reduction (CTR)/Transportation Demand Management (TDM) plan to reduce mobile GHG emissions for all uses. The TDM plan shall be approved by the City of East Palo Alto and any physical features resulting from the plan shall be shown in final improvement plans. The TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. The following measures or equally effective measures shall be incorporated into the TDM plan.

- The project applicant shall consult with the local transit service provider on the need to provide infrastructure to connect the project with transit services. Evidence of compliance with this requirement may include correspondence from the local transit provider(s) regarding the potential need for installing bus turnouts, shelters or bus stops at the site.
- The CTR/TDM plan for the project shall include, but not be limited to the following potential measures: ride-matching assistance, preferential carpool parking, flexible work schedules for carpools, half-time transportation coordinators, providing a web site or message board for coordinating rides, designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles, and including bicycle end of trip facilities. This list may be updated as new methods become available. Verification of this measure shall occur prior to building permit issuance for the commercial uses.

Recognizing that future regulatory mandates, technological advances, and/or final project design features would likely result in GHG emissions that are lower than the levels presented in this EIR, the project applicant may prepare a final project GHG emissions inventory prior to City issuance of the certificate of occupancy. The project

applicant may submit a report to the City that substantiates that alternate measures would reduce emissions below the BAAQMD threshold. Alternate measures may include but are not limited to electric vehicle charging, zero net energy buildings, and GHG emissions offsets.

Impact GHG-2: The project will not conflict with a plan, policy or regulation adopted for the purpose of reducing greenhouse gas emissions. This is a less than significant impact.

As discussed above in the Local Regulatory Section, the City of East Palo Alto (City) finalized a Climate Action Plan (CAP) in December 2011 to present goals and measures for reducing the City's GHG emissions. The project would be consistent with and rely on these goals and measures. Therefore, the project would result in a less than significant cumulative impact to global climate change.

The project would be subject to compliance with all building codes in effect at the time of construction, which include energy conservation measures mandated by California Building Standards Code Title 24 – Energy Efficiency Standards. Because Title 24 standards require energy conservation features in new construction (e.g., high- efficiency lighting, high-efficiency heating, ventilating, and air-conditioning (HVAC) systems, thermal insulation, double-glazed windows, water conserving plumbing fixtures), they indirectly regulate and reduce GHG emissions. California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2019 standards improved upon the 2016 standards for new construction of, and additions and alterations to, residential, commercial, and industrial buildings. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018 and took effect on January 1, 2020. Under the 2019 standards, residential dwellings will be required to use approximately 53 percent less energy and nonresidential buildings will be required to use approximately 30 percent less energy than buildings under the 2016 standards.

Additionally, the project would be required to follow relevant General Plan Policies that directly address reducing and avoiding GHG emissions impacts. The project would comply with SB X7-7, which requires California to achieve a 20 percent reduction in urban per capita water use by 2020 as well as implement best management practices for water conservation to achieve the City's water conservation goals.

The project demonstrates consistency with the General Plan goals, measures, and emission reduction targets, and would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce GHG emissions, including Title 24, AB 32, and SB 32. Therefore, project impacts would be **less than significant**.

CARB Scoping Plan

The California State Legislature adopted AB 32 in 2006. AB 32 focuses on reducing GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, the ARB adopted the Climate Change Scoping Plan (Scoping Plan) in 2008, which outlines actions recommended to obtain that goal. The Scoping Plan provides 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 the cap-and-trade program, and an AB 32 implementation fee to fund the program.

The latest CARB Climate Change Scoping Plan (2017) outlines the State's strategy to reduce State's GHG emissions to return to 40 percent below 1990 levels by 2030 pursuant to SB 32. The CARB Scoping Plan is applicable to State agencies and is not directly applicable to cities/counties and individual projects. Nonetheless, the Scoping Plan has been the primary tool that is used to develop performance-based and efficiency-based CEQA criteria and GHG reduction targets for climate action planning efforts.

The 2017 Scoping Plan Update identifies additional GHG reduction measures necessary to achieve the 2030 target. These measures build upon those identified in the First Update to the Climate Change Scoping Plan (2013). Although a number of these measures are currently established as policies and measures, some measures have not yet been formally proposed or adopted. It is expected that these measures or similar actions to reduce GHG emissions would be adopted as required to achieve statewide GHG emissions targets. As shown in Table 11-5: Project Consistency with Applicable CARB Scoping Plan Measures, the project is consistent with most of the strategies, while others are not applicable to the project.

Table 11-5: Project Consistency with Applicable CARB Scoping Plan Measures

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
Transportation	California Cap-and-Trade Program Linked to Western Climate Initiative	Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanism October 20, 2015 (CCR 95800)	**Consistent.** The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers. However, the regulation indirectly affects people who use the products and services produced by these industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-State or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period.

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
	California Light-Duty Vehicle Greenhouse Gas Standards	Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles	**Consistent**. This measure applies to all new vehicles starting with model year 2012. The project would not conflict with its implementation as it would apply to all new passenger vehicles purchased in California. Passenger vehicles, model year 2012 and later, associated with construction and operation of the project would be required to comply with the Pavley emissions standards.
		2012 LEV III Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards	**Consistent.** The LEV III amendments provide reductions from new vehicles sold in California between 2017 and 2025. Passenger vehicles associated with the site would comply with LEV III standards.
	Low Carbon Fuel Standard	2009 readopted in 2015. Regulations to Achieve Greenhouse Gas Emission Reductions Sub article 7. Low Carbon Fuel Standard CCR 95480	**Consistent.** This measure applies to transportation fuels utilized by vehicles in California. The project would not conflict with implementation of this measure. Motor vehicles associated with construction and operation of the project would utilize low carbon transportation fuels as required under this measure.
	Regional Transportation-Related Greenhouse Gas Targets	SB 375. Cal. Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28	**Consistent**. The project would provide development in the region that is consistent with the growth projections in the Regional Transportation Plan/Sustainable Communities Strategy (SCS) (Plan Bay Area 2040).
	Goods Movement	Goods Movement Action Plan January 2007	**Not applicable**. The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
	Medium/Heavy-Duty Vehicle	2010 Amendments to the Truck and Bus Regulation, the Drayage Truck Regulation and the Tractor-Trailer Greenhouse Gas Regulation	**Consistent**. This measure applies to medium and heavy-duty vehicles that operate in the State. The project would not conflict with implementation of this measure. Medium and heavy-duty vehicles associated with construction and operation of the project would be

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
			required to comply with the requirements of this regulation.
	High Speed Rail	Funded under SB 862	**Not applicable**. This is a statewide measure that cannot be implemented by a project applicant or Lead Agency.
Electricity and Natural Gas	Energy Efficiency	Title 20 Appliance Efficiency Regulation	**Consistent.** The project would not conflict with implementation of this measure. The project would comply with the latest energy efficiency standards.
		Title 24 Part 6 Energy Efficiency Standards for Residential and Non-Residential Building	
		Title 24 Part 11 California Green Building Code Standards	
	Renewable Portfolio Standard/Renewable Electricity Standard.	2010 Regulation to Implement the Renewable Electricity Standard (33% 2020)	**Consistent**. The project would obtain electricity from the electric utility, PG&E. PG&E obtained 39 percent of its power supply from renewable sources in 2018. Therefore, the utility would provide power when needed on site that is composed of a greater percentage of renewable sources.
		SB 350 Clean Energy and Pollution Reduction Act of 2015 (50% 2030)	
	Million Solar Roofs Program	Tax incentive program	**Consistent.** This measure is to increase solar throughout California, which is being done by various electricity providers and existing solar programs. Project owner would be able to take advantage of incentives that are in place at the time of construction.
Water	Water	Title 24 Part 11 California Green Building Code Standards	**Consistent.** The project would comply with the California Green Building Standards Code, which requires a 20 percent reduction in indoor water use. The Project would also comply with the City's Water Conservation in Landscaping Ordinance (Chapter 17.06 of the East Palo Alto Municipal Code).
		SBX 7-7—The Water Conservation Act of 2009	
		Model Water Efficient Landscape Ordinance	

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
Green Buildings	Green Building Strategy	Title 24 Part 11 California Green Building Code Standards	**Consistent.** The State goal is to increase the use of green building practices. The project would implement required green building strategies through existing regulation that requires the project to comply with various CalGreen requirements.
Industry	Industrial Emissions	2010 CARB Mandatory Reporting Regulation	**Not applicable.** The project does not include industrial land uses.
Recycling and Waste Management	Recycling and Waste	Title 24 Part 11 California Green Building Code Standards AB 341 Statewide 75 Percent Diversion Goal	**Consistent.** The project would not conflict with implementation of these measures. The project is required to achieve the recycling mandates via compliance with the CALGreen code. The City has consistently achieved its State recycling mandates.
Forests	Sustainable Forests	Cap and Trade Offset Projects	**Not applicable.** The project site is in an infill site located in a developed area of the City. No forested lands exist on-site.
High Global Warming Potential	High Global Warming Potential Gases	CARB Refrigerant Management Program CCR 95380	**Not applicable**. The regulations are applicable to refrigerants used by large air conditioning systems and large commercial and industrial refrigerators and cold storage system. The project is not expected to use large systems subject to the refrigerant management regulations adopted by CARB.
Agriculture	Agriculture	Cap and Trade Offset Projects for Livestock and Rice Cultivation	**Not applicable**. The project site is an infill site. No grazing, feedlot or other agricultural activities that generate manure currently exist on-site or are proposed to be implemented by the project.

Source: California Air Resources Board (CARB), California's 2017 Climate Change Scoping Plan, 2017b and CARB, Climate Change Scoping Plan, December 2008.

As noted above, with mitigation the project would emit a net of approximately 1,027 $MTCO_2e$ per year, directly from on-site activities and indirectly from off-site motor vehicles. Also, as demonstrated in Table 11-5, the project would not conflict with the CARB Scoping Plan. As discussed above, the Scoping Plan reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. GHG emissions caused by long-term operation of the proposed project would be **less than significant.**

Appendix B, Local Action, of the 2017 CARB Scoping Plan lists potential actions that support the State's climate goals. However, the Scoping Plan notes that the applicability and performance of the actions may vary across the regions. The document is organized into two categories (A) examples of plan-level GHG reduction actions that could be implemented by local governments and (B) examples of on-site project design features, mitigation measures, that could be required of individual projects under CEQA, if feasible, when the local jurisdiction is the lead agency.

The project would include a number of the potential mitigation measures for construction and operation. For example, the Scoping Plan's construction measures include enforcing idling time restrictions on construction vehicles, requiring construction vehicles to operate highest tier engines commercially available, diverting and recycling construction waste, minimizing tree removal, and increase use of electric and renewable fuel powered construction equipment and require renewable diesel fuel where commercially available. These measures are consistent with the requirements in MM AQ-2.1, which require the minimization of idling, the use of clean off-road engines, and the recycling of construction waste. MM AQ-3.1 would require that would require construction vehicles to operate Tier 4 engines or equivalent. As indicated above, GHG reductions are also achieved as a result of State of California energy and water efficiency requirements for new non-residential developments. These efficiency improvements correspond to reductions in secondary GHG emissions. For example, in California, most of the electricity that powers homes are derived from natural gas combustion. Therefore, energy saving measures, such as Title 24, reduces GHG emissions from the power generation facilities by reducing load demand.

The project would be required to comply with existing regulations, including applicable measures from the City's General Plan, or would be directly affected by the outcomes (vehicle trips and energy consumption would be less carbon intensive due to statewide compliance with future low carbon fuel standard amendments and increasingly stringent Renewable Portfolio Standards). As such, the project would not conflict with any other State-level regulations pertaining to GHGs.

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; Nevertheless, it can be anticipated that operation of the project would benefit from implementation of current and potential future regulations (e.g., improvements in vehicle emissions, SB 100/renewable electricity portfolio improvements, etc.) enacted to meet an 80 percent reduction below 1990 levels by 2050.

Plan Bay Area

The project would be consistent with the overall goals of Plan Bay Area 2040 to provide housing, healthy and safe communities, and climate protection with an overall goal to reduce VMT. As noted above, the project would develop the project site with residential and retail uses consistent with the General Plan. The project involves an infill residential and local-serving retail development that would provide housing and employment in the City. Implementation of the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and this impact would be **less than significant**.

11.5.5 Cumulative Impact Analysis

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately one day), GHGs have much longer atmospheric lifetimes of one year to several thousand years that allow them to be dispersed around the globe.

Impact GHG-3: The project will not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. This is a less than significant impact.

It is generally the case that an individual project of the project's size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The additive effect of project-related GHG emissions would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the project as well as other cumulative related projects, would be subject to all applicable regulatory requirements, which would further reduce GHG emissions. As shown in Table 11-2 and Table 11-4, the project's GHG emissions would be less than significant with the implementation of MM GHG-1.1. The project would not conflict with any GHG reduction plan. Therefore, the project's cumulative contribution of GHG emissions would be **less than significant** and the project's cumulative GHG impacts would also be less than cumulatively considerable.

11.6 References

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12 Hazards and Hazardous Materials

12.1 Introduction

This section describes potential effects from hazards and hazardous materials that could result from implementation of the proposed project. Information used to prepare this section was sourced primarily from the following documents:

- WSP USA, Inc., Phase I Environmental Site Assessment for Woodland Park – Euclid Improvements Area, September 2019. (**Appendix F**)
- WSP USA, Inc., Transaction Screen Summary for Prospective Buy on Vacant Parcel on Donohoe Street, East Palo Alto, CA, June 2016 (**Appendix F**)
- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Safety and Noise Element, 2017

12.2 Scoping Issues Addressed

During the Notice of Preparation (NOP) public comment and scoping period for the proposed project, no specific comments were received regarding hazards or hazardous materials. However, the City has identified potential issues associated with project demolition and disposal that are addressed in this section.

12.3 Environmental Setting

12.3.1 Regional Setting

The City was primarily an agricultural and industrial area until the 1950s. Historically, the City has had a cluster of agricultural, heavy manufacturing, chemical manufacturing and auto wrecking uses. The City was nominated as a Brownfields Showcase Community in 1997 for redeveloping several brownfield areas, such as the Gateway 101 and University Circle area.

12.3.2 Project Site

Historic Land Use

Documenting the historic uses on a project site is essential for understanding potential sources of hazards or hazardous materials. A review of available historical records (such as Sanborn fire insurance maps, aerial photographs, City directories) and previous environmental reports indicates that the project site previously included vacant, undeveloped land, agricultural use and ultimately residential development. According to previous Phase I reports, the residential uses were constructed between 1922 and 1969 with the majority of the units developed in the 1950s and 1960s.

The project area was previously used for agricultural purposes as far back as 1939. Prior to December 11, 2011, Page Mill Properties, LLC were the property owners. Equity Residential purchased the subject properties on December 11, 2011 and operated the site until 2016. In 2016, Woodland Park Communities/Sand Hill Property Company purchased the project site and are the current owners of the property.

The project site remains occupied by 161 existing residential apartment units and is currently used for residential and commercial activities including multi-family residences, coin-operated laundry areas, resident services activities, and a community engagement office. The segment of Euclid Avenue between O'Connor Street and O'Keefe Street is also within the project's planning boundaries.

Existing Land Uses

The 3.92-acre project site is located on 14 individual parcels/addresses bounded by West Bayshore Road, Manhattan Avenue, Euclid Avenue and O'Connor Street. The water tank site consists of an additional 0.47 acres.

Land to the east of the project site along West Bayshore Road is occupied by the Four Seasons Hotel. University Circle and various office uses are occupied to the southeast of the project site. The neighborhood to south of the project site across O'Connor Street is developed with various residential and neighborhood commercial properties. The neighborhood to the west is developed with residential uses comprised of single-family and multi-family residential. Highway 101 is located directly adjacent to the north of the project site across West Bayshore Road. The southwestern portion of the project site is on the boundary with the City of Menlo Park. The proposed water tank site at 375 Donohoe Street currently consists of a vacant lot and temporary "pop up" park that contains approximately 10 trees but otherwise is sparsely vegetated with no permanent improvements. This site was likely a residential parcel in the past based on the location and type of ornamental trees surrounding land use pattern.

12.3.3 Phase I Environmental Site Assessment Findings

A Phase I environmental site assessment (ESA) was prepared for the project site by WSP USA, Inc. (WSP) in September of 2019 (see **Appendix F**). The 2019 Phase I ESA included a site reconnaissance, a regulatory records review, interview with property owners, standard historical sources, aerial photographs, physical setting sources, and findings regarding the potential presence of any recognized environmental conditions (RECs). Relevant information from the 2019 Phase I ESA are summarized below.

Previous Site Investigations

Phase I Environmental Site Assessment, AEI, 2010

A 2010 Phase I ESA prepared by AEI was reviewed by WSP for their preparation of the 2019 Phase I ESA. The 2010 Phase I ESA identified no RECs on the project site. Environmental concerns that were identified by AEI include the potential for asbestos-containing material (ACM) in the buildings on the site due to the age of the buildings. AEI noted that all suspect ACM observed to be in good condition, however, AEI recommended an asbestos survey be conducted prior to any building renovation or demolition.

Another environmental concern identified by AEI was the potential presence of lead-based paint (LBP) due to the age of the buildings. During the 2010 ESA, AEI collected lead-based paint samples at several residential units. The results of the paint samples indicated 0.44 percent lead, which is below the Housing and Urban Development's guideline for lead paint of 0.5 percent. However, AEI noted several areas of damaged painted surfaces and recommended a LBP Operations and Maintenance (O&M) Plan be prepared and implemented.

Phase I Environmental Site Assessment at 77-95 Newell Road and 1750-1777 West Bayshore Road, Langan Treadwell Rollo, 2015

A 2015 Phase I ESA prepared by Langan Treadwell Rollo was reviewed by WSP for their preparation of the 2019 Phase I ESA, more specifically for environmental concerns in the project area. WSP's review of the 2015 Phase I ESA identified one REC in the project area associated with the potential of pesticides and select metals in onsite soils due to historic agricultural use.

Prior to Equity Residential's acquisition of the subject properties in 2011, Equity Residential performed a screening sampling of soil to evaluate the potential for elevated pesticide levels remaining from past agricultural uses. Composite soil samples from various locations were collected in August 2011. The results from the soil sampling in the Euclid Improvements Area (Zone 1) [1] indicated that pesticides were not present in the soils.

Phase I Environmental Site Assessment, WSP, 2016

A 2016 Phase I ESA prepared by WSP in February 2016.

Asbestos was identified in various building materials including acoustical ceiling material, HVAC duct material, floor tile and mastic, vinyl floor material, joint and texturing compound. The tracking spreadsheet indicated ACM was removed from many subject property buildings; however, some ACM remains in place at many subject property buildings. An Asbestos Operations & Maintenance (O&M) Plan was developed in 2014. WSP recommends continued implementation of the Asbestos O&M Plan with necessary precautions taken prior to any renovation or demolition of ACM areas.

At the time of WSP's site visit for their preparation of the 2016 Phase I ESA, they did not observe any areas of damaged paint surfaces. WSP reviewed the tracking spreadsheet for LBP identified in subject property buildings in each zone. Additionally, a tracking spreadsheet indicated that vendors of Woodland Park Apartments were notified of the LBP areas onsite between 2013 and 2015. WSP did not review a LBP O&M Plan. Based on their findings, a LBP O&M Plan exists and WSP recommends the LBP O&M Plan be implemented so that necessary precautions are taken prior to any renovation or demolition of painted surfaces.

Additional Environmental Record Resources

Standard Environmental Record Sources

As part of the 2016 Phase I ESA, WSP Amicus ordered an environmental database search from Environmental Data Resources (EDR) to identify any current or historic spill or release sites. The EDR database search listed approximately 42 sites within a 1-mile radius of the property area. Several of sites are listed on the State of California's Envirostor and Geotracker databases. Of the 42 sites listed from the EDR database search, there is no evidence that any of the 42 listed sites pose an environmental concern to the subject properties, such as identified releases or threatened releases from migrating hazardous substances or petroleum products that have not been remediated. See **Appendix F** for the listed sites.

[1] The project site is within Zone 1 of the Euclid Improvements Area.

Transaction Screen for 375 Donohoe Street

WSP conducted an environmental transaction screen for one of the parcels on the proposed water tank site in 2016 (APN 063-148-130). This screening included a regulatory database search and site investigation for this 10,800 square foot area. Based on this report, no potential environmental concerns were identified for the subject property. Similar investigations were not conducted for remainder of the site.

Regulatory Agency File Reviews

As part of the 2019 Phase I ESA, WSP submitted a Freedom of Information Act request to obtain files from the Menlo Park Fire District, San Mateo County Department of Environmental Health, Menlo Park Municipal Water District, Bay Area Air Quality Management District, San Francisco Bay Regional Water Quality Control Board, and Menlo Park Municipal Water District to verify information identified during the site visit, document review, and in the regulatory database search for the subject property and adjoining properties. No records were identified by the Bay Area Air Quality Management District and Menlo Park Municipal Water District. To date, a response has not been received from the remaining agencies at the time of this report.

Environmental Cleanup Liens/Activity and Use Limitations

WSP conducted a search for the existence of environmental cleanup liens against the project site through the San Mateo County Clerk Recorders online database for the 2019 Phase I ESA. The search indicated no environmental cleanup liens have been reported for the properties on the project site.

Data Gaps

WSP identified the following data gaps in the 2019 Phase I ESA:

WSP was unable to interview any previous property owners or occupants of the subject property for the 2019 Phase I ESA. However, WSP determined there was sufficient information available through other sources to determine historical operations that were conducted at the subject property. Therefore, WSP determined this data gap did not affect their ability to identify RECs at the project site.

WSP did not inspect the interiors of residential units. The backyards and roof areas of each residential home and residential building were also not inspected. However, WSP determined this data gap did not affect their ability to identify RECs at the project site.

12.3.4 Current Site Operations and Conditions

Hazardous Materials/Wastes

Raw Materials Handling and Storage Practices

Raw materials at Woodland Park Apartments are stored at the building located at 2043 Euclid Avenue behind the leasing center at 2041 Euclid Avenue. These materials consist of latex paint in 5-gallon and smaller containers, 1-gallon containers of paint thinner, miscellaneous maintenance materials, and general-purpose cleaners. These materials are used for routine property maintenance.

The previous Phase I ESAs and interviews with facility personnel indicated that the handling of current raw materials and storage practices are substantially the same as they have been for the past five years.

According to the facility personnel and reviews of Geotracker and EDR, there have been no reportable spills or releases of raw materials within the subject property.

Solid and Hazardous Waste

The EDR showed one unit within the Woodland Park Apartments area, 2031 Euclid Avenue, listed as a generator of hazardous waste from the disposal of ACM in 2010. The property is identified with an EPA identification number CAC002653307. According to the California Department of Toxic Substances Control, the EPA identification number beginning with "CAC" indicates the number was issued as a state provisional or emergency number and that the property does not routinely generate hazardous waste. No other properties within the project area have an EPA identification number.

The next closest site identified as a generator of hazardous materials is located at 445 O'Keefe Road, approximately 350 feet west of the project site. This property was listed as a former auto detailing operation (HIST AUTO database) for an historic automobile related business. Currently, this address is a multi-unit apartment building.

These two database listings within the mapped area of interest did not indicate any potential environmental concerns for the project site.

The properties on the project site currently manage spent fluorescent bulbs and batteries as universal waste. According to personnel, the spent fluorescent bulbs and batteries are placed in boxes twice a year and sent offsite for recycling.

During WSP's site visit, no evidence of onsite waste disposal was noted. In addition, WSP observed no onsite pits, ponds, or lagoons.

Underground and Aboveground Tanks

Based on interviews of facility personnel and a review of historical records, no underground storage tanks (USTs) have ever been present at the subject properties. WSP did not identify any RECs based on a review of the facility's USTs or aboveground storage tanks (ASTs).

Water, Wastewater, and Storm Water

The current properties on the project site obtain potable water from two sources for public water supply including the O'Connor Tract Water District (for a small portion of the units) and American Water Works Company, Inc. (for the majority of the units). Routine maintenance of the water lines is reportedly performed on a regular basis.

Air Emissions

The current residential units are equipped with natural gas water heaters and natural gas and electric forced air heaters. None of the current residential units are equipped with air conditioning.

Polychlorinated Biphenyls

The EPA requires facilities to presume that any mineral oil filled equipment manufactured before July 2, 1979, contains PCBs, unless testing or other information demonstrates otherwise. Based on the age of the existing buildings (constructed between 1922 and 1969), WSP determined there is a potential that onsite electrical equipment contains PCBs.

Asbestos

During the site visit in 2019, WSP observed surfacing material, thermal system insulation, floor tiles or other sheet flooring, which are building materials that may contain asbestos. Based on WSP's observations, it appears that the building materials present would be considered presumed ACM. These findings were consistent with the observations from 2016.

As identified above, Phase I Environmental Site Assessment, asbestos was identified in various building materials including acoustical ceiling material, HVAC duct material, floor tile and mastic, vinyl floor material, joint and texturing compound. The tracking spreadsheet indicated ACM was removed from many subject property buildings; however, some ACM remains in place at many subject property buildings. WSP recommends continued implementation of the Asbestos O&M Plan with necessary precautions taken prior to any renovation or demolition of ACM areas.

Lead-Based Paints

At the time of the site visit, WSP did not observe any areas of damaged painted surfaces. As identified above in Section 12.3.2, Phase I Environmental Site Assessment, WSP reviewed a tracking spreadsheet for LBP identified in subject property buildings in each zone. WSP did not review a LBP O&M Plan. Based on their findings, a LBP O&M Plan exists and WSP recommends the LBP O&M Plan be implemented so that necessary precautions are taken prior to any renovation or demolition of painted surfaces.

Nonhazardous Wastes

Nonhazardous wastes generated on the project site include general residential and office trash, , and household recyclables. Wastes and recycled materials are placed in bins for collection from the single tenant residents or within dumpsters situated throughout the multi-family units within the properties on the project site. Nonhazardous waste is collected by Recology for offsite recycling and disposal.

Soil and Groundwater Contamination

Federal and state databases were also searched to determine the potential for the project site to be affected by releases from neighboring properties. The sites that have the greatest potential to have caused environmental contamination are those that have had releases or spills of hazardous substances or petroleum products located upgradient or in close proximity to the facility. The direction of localized groundwater flow at the properties is presumed to be to the north-northeast. Thus, the sites that are of the greatest potential concern are those that have had releases or spills of hazardous substances or petroleum products and are south-southwest (upgradient) or in close proximity to the project site. As noted above, there is no evidence that any of the 42 listed sites in the property area pose an environmental concern to the subject properties.

Other Potential Hazards

Other hazards potentially related to the proposed project and that are addressed in the CEQA Guidelines include wildland fire hazards and transport of hazardous materials on nearby roadways. The existing setting relative to these potential hazards are further discussed below. Chapter 13: Hydrology and Water Quality, discusses potential hazards related to flooding and inundation.

Wildland Fire Hazards

The risk of wildfire is limited in East Palo Alto due to its location in a highly urbanized portion of San Mateo County, with San Francisco Bay forming the eastern boundary of the community (City of East Palo Alto, 2017). According to the CALFIRE FHSZ Map Viewer for San Mateo County, East Palo Alto is outside of a State Responsibility Area for wildfires, which means local responsibility for fire protection falls to city fire departments, fire protection districts, counties, and CAL FIRE under contract to local government.

Hazardous Materials Transport on Roadways

The project site is located in proximity to East Bayshore Road, West Bayshore Road, and a portion of University Avenue which may be used for the transport of hazardous wastes and materials associated with local businesses and industry as shown in Figure 12-1: Hazardous Material Truck Routes. Truck accidents could result in upset or spills of such materials. The transport of hazardous materials is subject to federal, State, and local regulations to minimize impacts and risks associated with the transportation of hazardous materials.

Airport Proximity

The nearest public airport, public use airport, and/or private airstrip is the Palo Alto Airport. The project site is located approximately 1.4 miles west of the Palo Alto Airport and is outside of the Airport Influence Area (AIA). The Palo Alto Airport Comprehensive Land Use Plan (CLUP) is the land use plan that ensures new surrounding land uses do not affect the airport's operations. The CLUP is discussed in further detail below.

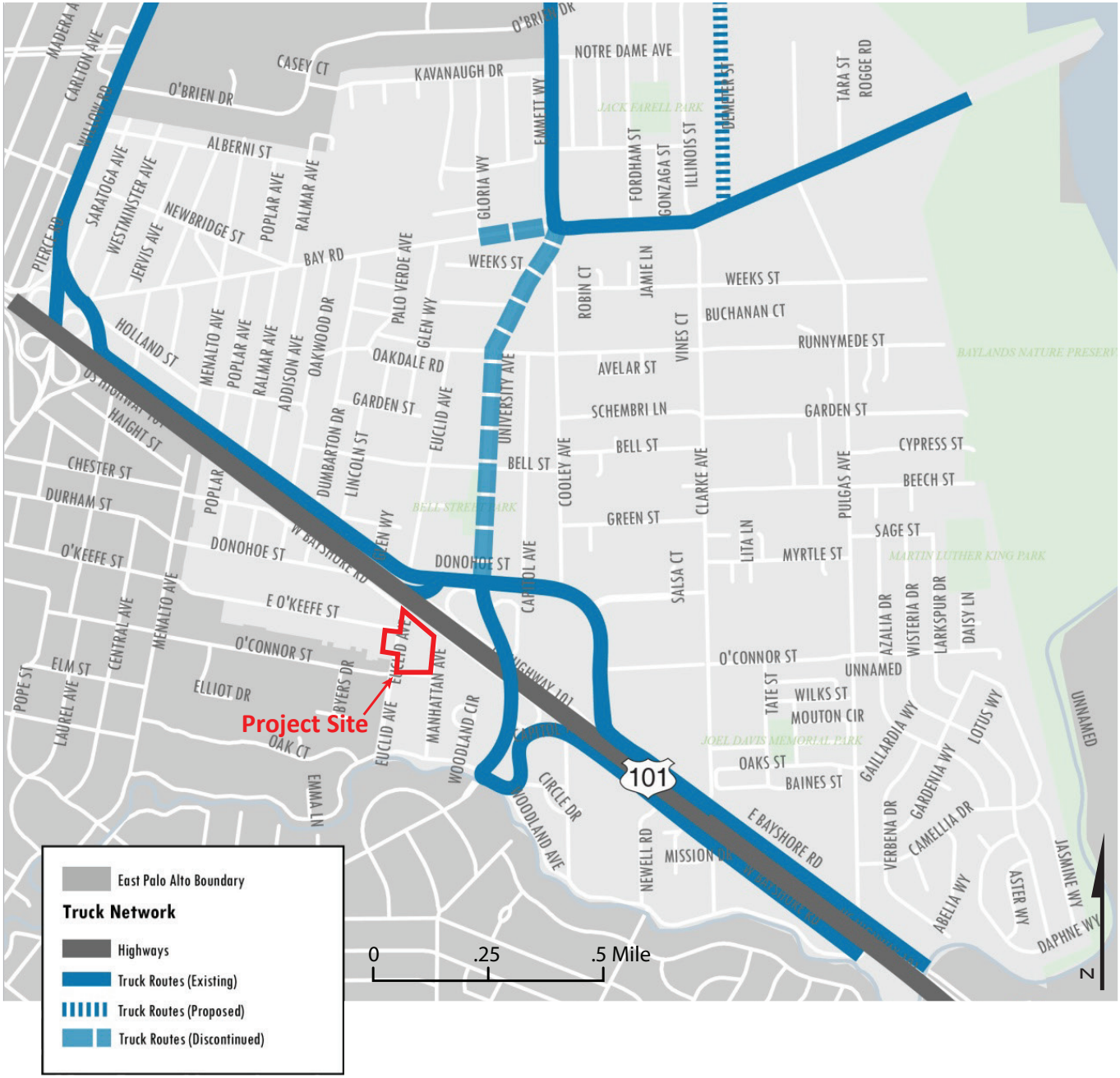
12.4 Applicable Regulations, Plans, and Standards

The management of hazardous materials and hazardous wastes is regulated at federal, state, and local levels, including, among others, through programs administered by the U.S. Environmental Protection Agency (U.S. EPA); agencies within the California Environmental Protection Agency (CalEPA), such as the DTSC; federal and state occupational safety agencies; and the San Mateo County Environmental Health Division. Regulations pertaining to flood hazards are discussed in Chapter 13: Hydrology and Water Quality, and regulations for geologic and soil-related hazards are discussed in Chapter 10: Geology and Soils.

12.4.1 Federal

Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The federal Toxic Substances Control Act of 1976 and Resource Conservation and Recovery Act (RCRA) established a program administered by the U.S. EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes.



Source: City of East Palo Alto, 2016

Figure 12-1: Hazardous Material Truck Routes

Woodland Park Euclid Improvements
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Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law (U.S. Code Title 42, Chapter 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables the revision of the National Contingency Plan (NCP). The NCP (Title 40, Code of Federal Regulation [CFR], Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Occupational Safety and Health Administration (OSHA)

OSHA's mission is to ensure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA staff establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in Title 29 CFR Part 1910.

OSHA's Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) applies to five distinct groups of employers and their employees. This includes any employees who are exposed or potentially exposed to hazardous substances — including hazardous waste — and who are engaged in one of the following operations:

- Clean-up operations — required by a governmental body, whether federal, State, local, or other involving hazardous substances — that are conducted at uncontrolled hazardous waste sites;
- Corrective actions involving clean-up operations at sites covered by RCRA as amended (42 U.S.C. 6901 et seq.);
- Voluntary clean-up operations at sites recognized by federal, state, local, or other governmental body as uncontrolled hazardous waste sites;
- Operations involving hazardous wastes that are conducted at treatment, storage, and disposal facilities regulated by Title 40 Code of Federal Regulations Parts 264 and 265 pursuant to RCRA, or by agencies under agreement with U.S. EPA to implement RCRA regulations; and
- Emergency response operations for releases of, or substantial threats of releases of, hazardous substances regardless of the location of the hazard.

12.4.2 State

California Environmental Protection Agency

CalEPA has jurisdiction over hazardous materials and wastes at the State level. DTSC is the department of CalEPA responsible for implementing and enforcing California's own hazardous waste laws, which are known collectively as the Hazardous Waste Control Law. DTSC regulates hazardous waste in California

primarily under the authority of the federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Although similar to RCRA, the California Hazardous Waste Control Law and its associated regulations define hazardous waste more broadly and regulate a larger number of chemicals. Hazardous wastes regulated by California but not by the USEPA are called "non-RCRA hazardous wastes. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Government Code Section 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, Department of Health Services lists of contaminated drinking water wells, sites listed by the State Water Resources Control Board (SWRCB) as having underground storage tank leaks and have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The California Health and Safety Code, Division 20, Chapter 6.95, known as the Hazardous Materials Release Response Plans and Inventory Act or the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Businesses must submit this information to the County Environmental Health Division. The Environmental Health Division verifies the information and provides it to agencies responsible for protection of public health and safety and the environment. Business Plans are required to include emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material, including, but not limited to, all of the following:

- Immediate notification to the administering agency and to the appropriate local emergency rescue personnel.
- Procedures for the mitigation of a release or threatened release to minimize any potential harm or damage to persons, property, or the environment.
- Evacuation plans and procedures, including immediate notice, for the business site.

Business Plans are also required to include training for all new employees, and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the State hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The act is implemented by regulations contained in Title 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements. These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) required the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (a.k.a. Tiered Permitting); Aboveground Petroleum Storage Tank SPCC; Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or "Community-Right-To-Know"); California Accidental Release Prevention Program (Cal ARP); Underground Storage Tank (UST) Program; and Uniform Fire Code Plans and Inventory Requirements.

The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA.

Department of Toxic Substance Control (DTSC)

DTSC is a department of Cal EPA and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of the federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Government Code §65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, Department of Health Services (DHS) lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks and have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

California Office of Emergency Services (OES)

To protect the public health and safety and the environment, the California OES is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and the health risks) needs to be available to firefighters, public safety officers, and regulatory agencies. The information must be included in these institutions' business plans to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment.

These regulations are covered under Chapter 6.95 of the California Health and Safety Code Article 1–Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2–Hazardous Materials Management (Sections 25531 to 25543.3). CCR Title 19, Public Safety, Division 2, Office of Emergency Services, Chapter 4–Hazardous Material Release Reporting, Inventory, and Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide

standards for Hazardous Materials Business Plans (HMBP). These plans shall include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7; (2) emergency response plans and procedures in accordance with Section 2731; and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the State. Each business shall prepare a HMBP if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following: 500 pounds of a solid substance, 55 gallons of a liquid, 200 cubic feet of compressed gas, a hazardous compressed gas in any amount, or hazardous waste in any quantity.

California Occupational Safety and Health Administration

Cal/OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Asbestos-Containing Materials Regulations

State-level agencies, in conjunction with the EPA and OSHA, regulate removal, abatement, and transport procedures for asbestos-containing materials (ACM). Release of asbestos from industrial, demolition, or construction activities are prohibited by these regulations and medical evaluation and monitoring is required for employees performing activities that could expose them to asbestos. Additionally, the regulations include warnings that must be heeded and practices that must be followed to reduce the risk for asbestos emissions and exposure. Finally, state, and local agencies must be notified prior to the onset of demolition or construction activities with the potential to release asbestos.

Lead-Based Paint Regulations

Cal OSHA's Lead in Construction Standard is contained in 8 CCR Section 1532.1. The regulations address all of the following areas: permissible exposure limits (PELs); exposure assessment; compliance methods; respiratory protection; protective clothing and equipment; housekeeping; medical surveillance; medical removal protection (MRP); employee information, training, and certification; signage; record keeping; monitoring; and agency notification.

12.4.3 Local

City of East Palo Alto Hazard Mitigation Plan

The City currently participates in the San Mateo County Hazard Mitigation Plan (HMP). The HMP is intended to enhance public awareness, create a decision tool for management, promote compliance with State and federal program requirements, enhance local policies for hazard mitigation capacity, support viability after a hazard event, and provide inter-jurisdictional coordination. The HMP is designed to conform to the requirements of the Disaster Mitigation Act of 2000, which requires all cities, counties, and special districts to adopt a HMP to receive disaster mitigation funding from the Federal Emergency Management Agency.

City of East Palo Alto Emergency Operations Plan (EOP)

The City of East Palo Alto adopted its Emergency Operations Plan (EOP) in January 2011. The EOP identifies resources for emergency response and establishes coordinated action plans for specific emergency situations and disasters such as hazardous materials incidents and specifies emergency evacuation routes. These routes include University Avenue and Bay Road. The EOP incorporates the City of East Palo Alto into the National Incident Management System, California Standardized Emergency Management System, and Incident Command System.

Palo Alto Airport Comprehensive Land Use Plan (CLUP)

The Palo Alto Airport CLUP was adopted in 2008 by the Santa Clara County Airport Land Use Commission (ALUC) and amended in 2016. The CLUP defines safety zones around the airport, several of which intersect the City. The Traffic Pattern Zone (TPZ) includes developed parts of the City and is the portion of the airport area routinely overflown by aircraft operating in the airport traffic pattern. The project site is located outside of the TPZ.[2]

The project site is located approximately 1.4 miles west of the Palo Alto Airport and is outside of the AIA. The AIA is a composite of areas surrounding the Airport that are affected by noise, height, and safety considerations. The AIA is defined as a feature-based boundary around the Airport within which all development projects must be evaluated by local agencies to determine how the Airport Comprehensive Land Use Plan may impact the proposed development. This evaluation is to determine that the development meets the conditions specified for height restrictions, and noise and safety protection to the public. [A.B. 332 (Stats. 2003) to be codified in Public Utilities Code 21674.7 (b)].

Vista 2035 East Palo Alto General Plan

General plan policies relative to hazards and hazardous materials are identified below. Relevant General Plan Policies that directly address reducing hazards and hazardous material impacts include the following:

Safety and Noise

Goal SN 3: Reduce the risk of fire and wildfire hazards in the community.

- Policy 3.6: Development Impact Fee. Coordinate with MPFPD in examining an impact fee on new development in order to help ensure provision of services in the event of demand increases.

Goal SN 4: Protect the community from public safety hazards related to aircraft, surface transportation, and hazardous materials.

- Policy 4.1: Contamination. Avoid or minimize risk to the community from exposure to contaminated soils or groundwater.
- Policy 4.2: Management of hazardous materials. Continue to cooperate with federal, state, and county agencies to effectively regulate the management of hazardous materials and hazardous waste.

[2] City of East Palo Alto. 2016. Vista 2035 East Palo Alto General Plan Update EIR, page 4.8-11, Figure 4.8-1.

- Policy 4.3: Risk Management Plans. Continue to cooperate with the Certified Unified Program Agency (CUPA) for East Palo Alto (the County of San Mateo Health System) and the Menlo Park Fire Protection District to administer Risk Management Plans for businesses within the City.

  Goal SN 5: Protect the community from public safety hazards related to aircraft, surface transportation, and hazardous materials

- Policy 5.2: Hazard mitigation planning. Continue to participate in Local Hazard Mitigation Planning through the Association of Bay Area Governments (ABAG), San Mateo Office of Emergency Services, FEMA, and surrounding jurisdictions.

Westside Area Plan

The Westside Area Plan is a separate chapter of the Vision 2035 General Plan, providing more detailed goals and policies for the Westside area of East Palo Alto. There are no specific policies related to hazards and hazardous materials in the Westside Area Plan.

12.5 Environmental Impacts and Mitigation Measures

12.5.1 Significance Criteria

The following significance criteria for hazards and hazardous materials were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of potential impacts related to this project.

An impact of the project would be considered significant and would require mitigation if it would meet one of the following criteria:

- 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, 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 or excessive noise 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, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

12.5.2 Summary of No and/or Beneficial Impacts

Wildland Fires

As noted in the Vista 2035 East Palo Alto General Plan, the risk of wildfires is limited in East Palo Alto due to its location in a highly urbanized portion of San Mateo County, with San Francisco Bay forming the eastern boundary of the community. The proposed project is within a developed area and not within a Very-High Fire Hazard Severity Zone as mapped by CALFIRE. Because the project is not within an area identified as having a high potential for wildland fire, the project would have no impact related to exposing people or structures to a significant risk of loss, injury, or death from wildland fire, as per CEQA Guidelines.

12.5.3 Impacts of the Proposed Project

Impact HAZ-1: The project has the potential to create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. This impact is less than significant with mitigation incorporated.

Construction

The primary issue here is the disposal of demolished or excavated materials that may be contaminated. The project would require complete demolition of the existing structures on the project site and site clearing of existing pavement and materials for all areas to be developed. Site clearing of existing pavement would include demolition of existing structures and areas that could contain asbestos from asbestos-containing material (ACM) areas and lead-based paint (LBP) from painted surfaces. The 2019 Phase I ESA revealed the presence of asbestos in many subject properties on the project site. While the tracking spreadsheet indicated ACM was removed from the subject property buildings, there are still some ACM areas remaining in many of these properties. Asbestos has been identified in various building materials including acoustical ceiling material, HVAC duct material, floor tile and mastic, vinyl floor material, and joint and texturing compound. As noted above, an Asbestos O&M Plan was developed in 2014. WSP recommends continued implementation of the Asbestos O&M Plan with necessary precautions taken prior to any renovation or demolition of ACM areas to reduce construction workers and future site users to hazardous contamination. Polychlorinated Biphenyls (PCBs) may also be present based upon the age of the buildings.

There is also the potential for LBP to be present on the project site due to the age of the buildings. Past paint samples indicated 0.44 percent lead, which is below the Housing and Urban Development's guideline for lead paint of 0.5 percent. While WSP did not observe any damaged painted surfaces during their site visit, WSP recommends continued implementation of the existing LBP O&M plan so necessary precautions are taken prior to any renovation or demolition of painted surfaces. The transport of demolished materials would be removed from the project site and transported via City designated truck routes used for the transport of hazardous materials to Ox Mountain Landfill for disposal. For these reasons, there would be minimal hazard to the public, as these construction activities would not be ongoing or routine. In addition, the proposed project would be required to comply with all applicable federal, State, and regional regulations which are intended to avoid impacts to the public and environment. Compliance with all applicable regulations during construction, as required by the DTSC,

San Francisco Bay RWQCB and California OES, together with implementation of preventative measures MM HAZ-1.1 and MM HAZ-1.2, would effectively reduce the potential for significant hazards to the public or environment from construction-related transport, use, or disposal of hazardous materials brought to our off-hauled from the site.

Operation

The project proposes a mix of residential units with neighborhood serving retail, community space and open space. These types of uses and facilities may generate, store, use, or dispose of small amounts of hazardous materials such as heavy metals, household chemicals, gasses, oils, solvents, paints, pesticides, and fertilizers necessary for ongoing maintenance of buildings and grounds. All materials and substances would be subject to applicable health and safety requirements. The typical types and quantities of materials anticipated do not pose an acute or significant hazard to the public or environment compared to existing environmental site conditions, which use similar materials and substances. Thus, impacts related to typical operations would be less than significant.

MM HAZ-1.1 Asbestos Operation and Management Plan

Prior to demolition and removal of material from the site, the project applicant shall implement the recommendations of the 2014 Asbestos O&M Plan for work involving asbestos-containing material. These measures include asbestos training and specific work procedures for employees managing asbestos contaminated materials, notification procedures for building owners and occupants, asbestos clean-up and emergency response procedures, and recordkeeping of identified asbestos contaminated materials. The plan shall be reviewed and approved by the City of East Palo Alto prior to implementation.

MM HAZ-1.2 Lead Based Paint and PCB Operation and Management Plan

Prior to any renovations or demolition, the project applicant shall implement the recommendations of the LBP O&M Plan for work involving lead based painted surface areas to be carried out. These measures include training and special work procedures for employees managing lead-based paint materials, notification procedures for building owners and occupants, emergency response procedures, and recordkeeping of identified lead-based paint materials. The plan shall be reviewed and approved by the City of East Palo Alto prior to implementation. The project shall also follow current San Francisco Bay Regional Water Quality Control Board requirements for identifying and controlling PCB's during building demolition, if present.

Conclusion

During construction activities, such as demolition of the existing structures, there is a potential for asbestos from ACM areas and LBP from painted surfaces to be exposed. However, the proposed project would be required to comply with all applicable regulations during construction, as required by the DTSC and California OES, together with implementation of preventative measures MM HAZ-1.1 and HAZ-1.2. Compliance with these regulations, together with implementation of MM HAZ-1.1 and HAZ-1.2 would reduce potential impacts for significant hazards to a **less than significant** impact.

Impact HAZ-2: The project could 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. This is a less than significant impact with mitigation incorporated and compliance with existing regulations.

Construction

Construction of the project would require demolition, site preparation and construction of new structures as stated previously. As discussed previously, asbestos in some properties on the project site have been identified. Additionally, there are areas of damaged painted surfaces on the project site that may contain LBP based on the age of the buildings. During construction activities, the transport of these hazardous materials offsite for disposal may pose a risk of accidental release of hazardous materials into the environment.

However, compliance with all applicable regulations during construction, as required by the DTSC and California OES, together with implementation of preventative measures MM HAZ-1.1 and HAZ-1.2 would effectively reduce construction worker and future site user exposure to hazardous materials contamination to a **less than significant** level.

Operation

As discussed above, the type of uses proposed by the project and the localized generation, use and disposal of modest amounts of hazardous materials in daily operations (heavy metals, household chemicals, oils, solvents, paints, pesticides, and fertilizers, etc.) do not present a reasonably foreseeable upset and accident risk that could release hazardous materials into the environment. There are no aspects of the project that are at risk from significant upset, explosion, or storage of volatile substances that would put the public or environment at risk based on this standard.

All proposed uses and facilities within the project would be required to comply with all applicable federal, State, and regional regulations which are intended to avoid impacts to the public and environment. For these reasons, potential impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment are considered **less than significant**.

Impact HAZ-3: The project would handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. This is a less than significant impact with mitigation incorporated.

Construction

The nearest school to the project site is Alto International School, located approximately 0.20 miles southwest of the project site, in the City of Menlo Park. As discussed previously, there is a potential for asbestos from ACM areas and LBP from painted surfaces to be exposed, removed and transported during construction activities, such as site clearing and demolition. All transported materials would be hauled out via University Avenue, which is an existing truck route that allows the transport of hazardous

materials subject to federal, State, and local regulations. While the project would involve the transport and disposal of demolition and excavation waste, it would not involve the significant use, storage, or risk of upset of hazardous materials given the type of uses proposed and materials present. Nonetheless, this "handling" of material would occur within one-quarter mile of the nearest school to the project site.

The proposed project would implement preventative measures MM HAZ-1.1 and MM HAZ-1.2 ensuring that necessary precautions are taken prior to demolition to reduce risk to construction workers and future site users to hazardous contamination exposure. Additionally, the project would be required to comply with all applicable federal, State, and regional regulations which are intended to avoid impacts to the public and environment. Given the truck route would take the demolition and excavation waste away from the nearest school site and preventative measures MM HAZ-1.1 and MM HAZ-1.2 would be in place to ensure necessary precautions, there would not be an acute risk to the school from the transport of this material. For these reasons, construction impacts related to the emission of hazardous materials would be **less than significant**.

Operation

While the project site is within one-quarter mile of this existing school, the types of uses proposed by the project would typically handle only small amounts of hazardous materials (i.e., heavy metals, household chemicals, oils, solvents, paints, pesticides, fuels for generators and fertilizers) that are typical of the surrounding residential uses. In addition, the water tank pump house would store enough diesel fuel to run the pump for emergency fire flow for several hours. This small amount of fuel would be secured within the pump house and would not be considered an acute risk of contamination or emissions as it would only be used under special circumstances. If handled and disposed of properly, these small amounts of hazardous materials would not pose a significant risk on existing or proposed school sites during normal project operations. Impacts would therefore be **less than significant**.

Impact HAZ-4: The project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. This impact is less than significant.

Construction and Operation

As noted previously, the project site is not listed on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Aside from a concern for a potential REC (e.g. pesticides) in the 2015 Phase I ESA, the results of the soil sampling conducted in 2011 determined soils in the project site to be free of pesticides (WSP, 2019). According to the 2019 Phase I ESA, there is no further evidence of a recognized environmental concern (REC) in connection with the project site.

The EDR search conducted as part of the 2016 Phase I ESA showed no database listing for the project property, but 42 sites were mapped within the 1-mile radius of the project area. While several of these sites were posted to the Geotracker or Envirostor databases, there is no evidence that these sites pose an environmental concern to the subject properties (WSP, 2019).

As discussed previously, there is a potential for asbestos from ACM areas and LBP from painted surfaces to be exposed during construction activities, such as site clearing and demolition. To avoid hazardous impacts to the public and environment, the project would be required to comply with all applicable

federal, State, and regional regulations and implement preventative measures MM HAZ-1.1 and MM HAZ-1.2 so necessary precautions are taken prior to any renovations or demolition. Based on the significance threshold for this impact (whether the project is identified on a list of hazardous materials sites), the impact is **less than significant**.

Impact HAZ-5: The project is located within two miles of a public airport or public use airport, but is not located within the Airport Influence Area, resulting in a less than significant safety hazard for people residing or working in the project area.

While the project site is located within 2 miles of a public airport or public use airport (Palo Alto Airport), the site is located outside of the Airport Influence Area (AIA), which is the area surrounding airport that is affected by noise, height, and safety considerations. The project is located approximately 1-mile northwest from the AIA. In addition, the project is located approximately 0.5 mile outside of the Traffic Pattern Zone (TPZ), which indicates there is a low potential for aircraft accidents and the need for land use restrictions. The project would not affect an airport land use plan or private airstrip and these effects are not evaluated further.

Impact HAZ-6: The project would not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. This impact is less than significant.

Construction

As discussed above, the City adopted its EOP in January 2011. The EOP identifies emergency evacuation routes in the City and courses of action for specific emergency situations and disasters. As shown in Figure 4.8-2 of the East Palo Alto General Plan Update EIR, the project site is approximately 0.15-mile west of University Avenue, which is identified as an emergency evacuation route by the City. No off-site roadway improvements to the project sites' neighboring streets are anticipated. Thus, any potential closures from project construction for utility relocation or movement of heavy equipment would be short term and would be coordinated with the Public Works Department as part of standard traffic management measures. Therefore, the proposed project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Impacts are considered **less than significant**.

Operation

As discussed above, the project would operate as a residential community with apartment buildings, with neighborhood serving retail, community space and open space. One pedestrian entrance to the lobby/amenity space would be accessed from O'Connor Street and one pedestrian entrance to the lobby/common space would be accessed from Euclid Avenue as shown in Figure 3-5: Proposed Site Plan. The parking garage entrance would be accessed from Manhattan Avenue. Fire truck staging areas would be located on Manhattan Avenue, Euclid Avenue, and East O'Keefe Street. The addition of project traffic would not block roads or intersections in a way that impairs the ability of emergency providers to respond and adhere to emergency response and/or evacuation plans. Based on the supplemental traffic operations study and transportation demand measures incorporated as part of the project, there is no

evidence that the project's operations would significantly impair or impede local emergency response or evacuation plans. Impacts are considered **less than significant**. Please see also Chapter 17, Transportation, as well as the cumulative impact discussion below.

12.5.4 Cumulative Impact Analysis

Impact HAZ-7: The project, in conjunction with other development projects as identified by the City, could not contribute to cumulatively considerable impacts from hazards and hazardous materials. This is a less than significant impact.

Most hazards and hazardous material impact from development are site-specific and if properly designed would not result in additive worsening of the environmental or public health and safety. The EIR evaluates RECs in connection with the project site and surrounding area. Regarding the off-site RECs, the database search documents the findings of various governmental database searches regarding properties with known or suspected releases of hazardous materials or petroleum hydrocarbons within a search radius of up to one mile from the site and serves as the basis for defining the cumulative impacts study area.

The project, when combined and considered with the list of other existing, planned and reasonably foreseeable development projects listed in Chapter 4, has little potential to increase risk to residents, employees, workers of the general public from the transport or exposure to hazardous conditions or materials.

Based on the traffic study and transportation demand measures incorporated as part of the project in the event of a major emergency, there is no evidence that suggests the addition of residents from the project would significantly impair or impede local emergency response or evacuation plans.

12.6 References

CAL FIRE (California Department of Forestry and Fire Protection). 2020. FHSZ Viewer. https://egis.fire.ca.gov/FHSZ/

City of East Palo Alto. Emergency Operation Plan. January 2011, adopted April 5, 2011.

City of East Palo Alto. 2016. City of East Palo Alto Hazard Mitigation Plan. https://www.ci.east-palo-alto.ca.us/DocumentCenter/View/46. Accessed on May 20, 2020.

County of Santa Clara Airport Land Use Commission. 2016. *Palo Alto Airport Comprehensive Land Use Plan*.

12 Hazards and Hazardous Materials

12.1 Introduction

This section describes potential effects from hazards and hazardous materials that could result from implementation of the proposed project. Information used to prepare this section was sourced primarily from the following documents:

- WSP USA, Inc., Phase I Environmental Site Assessment for Woodland Park – Euclid Improvements Area, September 2019. (**Appendix F**)
- WSP USA, Inc., Transaction Screen Summary for Prospective Buy on Vacant Parcel on Donohoe Street, East Palo Alto, CA, June 2016 (**Appendix F**)
- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Safety and Noise Element, 2017

12.2 Scoping Issues Addressed

During the Notice of Preparation (NOP) public comment and scoping period for the proposed project, no specific comments were received regarding hazards or hazardous materials. However, the City has identified potential issues associated with project demolition and disposal that are addressed in this section.

12.3 Environmental Setting

12.3.1 Regional Setting

The City was primarily an agricultural and industrial area until the 1950s. Historically, the City has had a cluster of agricultural, heavy manufacturing, chemical manufacturing and auto wrecking uses. The City was nominated as a Brownfields Showcase Community in 1997 for redeveloping several brownfield areas, such as the Gateway 101 and University Circle area.

12.3.2 Project Site

Historic Land Use

Documenting the historic uses on a project site is essential for understanding potential sources of hazards or hazardous materials. A review of available historical records (such as Sanborn fire insurance maps, aerial photographs, City directories) and previous environmental reports indicates that the project site previously included vacant, undeveloped land, agricultural use and ultimately residential development. According to previous Phase I reports, the residential uses were constructed between 1922 and 1969 with the majority of the units developed in the 1950s and 1960s.

The project area was previously used for agricultural purposes as far back as 1939. Prior to December 11, 2011, Page Mill Properties, LLC were the property owners. Equity Residential purchased the subject properties on December 11, 2011 and operated the site until 2016. In 2016, Woodland Park Communities/Sand Hill Property Company purchased the project site and are the current owners of the property.

The project site remains occupied by 161 existing residential apartment units and is currently used for residential and commercial activities including multi-family residences, coin-operated laundry areas, resident services activities, and a community engagement office. The segment of Euclid Avenue between O'Connor Street and O'Keefe Street is also within the project's planning boundaries.

Existing Land Uses

The 3.92-acre project site is located on 14 individual parcels/addresses bounded by West Bayshore Road, Manhattan Avenue, Euclid Avenue and O'Connor Street. The water tank site consists of an additional 0.47 acres.

Land to the east of the project site along West Bayshore Road is occupied by the Four Seasons Hotel. University Circle and various office uses are occupied to the southeast of the project site. The neighborhood to south of the project site across O'Connor Street is developed with various residential and neighborhood commercial properties. The neighborhood to the west is developed with residential uses comprised of single-family and multi-family residential. Highway 101 is located directly adjacent to the north of the project site across West Bayshore Road. The southwestern portion of the project site is on the boundary with the City of Menlo Park. The proposed water tank site at 375 Donohoe Street currently consists of a vacant lot and temporary "pop up" park that contains approximately 10 trees but otherwise is sparsely vegetated with no permanent improvements. This site was likely a residential parcel in the past based on the location and type of ornamental trees surrounding land use pattern.

12.3.3 Phase I Environmental Site Assessment Findings

A Phase I environmental site assessment (ESA) was prepared for the project site by WSP USA, Inc. (WSP) in September of 2019 (see **Appendix F**). The 2019 Phase I ESA included a site reconnaissance, a regulatory records review, interview with property owners, standard historical sources, aerial photographs, physical setting sources, and findings regarding the potential presence of any recognized environmental conditions (RECs). Relevant information from the 2019 Phase I ESA are summarized below.

Previous Site Investigations

Phase I Environmental Site Assessment, AEI, 2010

A 2010 Phase I ESA prepared by AEI was reviewed by WSP for their preparation of the 2019 Phase I ESA. The 2010 Phase I ESA identified no RECs on the project site. Environmental concerns that were identified by AEI include the potential for asbestos-containing material (ACM) in the buildings on the site due to the age of the buildings. AEI noted that all suspect ACM observed to be in good condition, however, AEI recommended an asbestos survey be conducted prior to any building renovation or demolition.

Another environmental concern identified by AEI was the potential presence of lead-based paint (LBP) due to the age of the buildings. During the 2010 ESA, AEI collected lead-based paint samples at several residential units. The results of the paint samples indicated 0.44 percent lead, which is below the Housing and Urban Development's guideline for lead paint of 0.5 percent. However, AEI noted several areas of damaged painted surfaces and recommended a LBP Operations and Maintenance (O&M) Plan be prepared and implemented.

Phase I Environmental Site Assessment at 77-95 Newell Road and 1750-1777 West Bayshore Road, Langan Treadwell Rollo, 2015

A 2015 Phase I ESA prepared by Langan Treadwell Rollo was reviewed by WSP for their preparation of the 2019 Phase I ESA, more specifically for environmental concerns in the project area. WSP's review of the 2015 Phase I ESA identified one REC in the project area associated with the potential of pesticides and select metals in onsite soils due to historic agricultural use.

Prior to Equity Residential's acquisition of the subject properties in 2011, Equity Residential performed a screening sampling of soil to evaluate the potential for elevated pesticide levels remaining from past agricultural uses. Composite soil samples from various locations were collected in August 2011. The results from the soil sampling in the Euclid Improvements Area (Zone 1) [1] indicated that pesticides were not present in the soils.

Phase I Environmental Site Assessment, WSP, 2016

A 2016 Phase I ESA prepared by WSP in February 2016.

Asbestos was identified in various building materials including acoustical ceiling material, HVAC duct material, floor tile and mastic, vinyl floor material, joint and texturing compound. The tracking spreadsheet indicated ACM was removed from many subject property buildings; however, some ACM remains in place at many subject property buildings. An Asbestos Operations & Maintenance (O&M) Plan was developed in 2014. WSP recommends continued implementation of the Asbestos O&M Plan with necessary precautions taken prior to any renovation or demolition of ACM areas.

At the time of WSP's site visit for their preparation of the 2016 Phase I ESA, they did not observe any areas of damaged paint surfaces. WSP reviewed the tracking spreadsheet for LBP identified in subject property buildings in each zone. Additionally, a tracking spreadsheet indicated that vendors of Woodland Park Apartments were notified of the LBP areas onsite between 2013 and 2015. WSP did not review a LBP O&M Plan. Based on their findings, a LBP O&M Plan exists and WSP recommends the LBP O&M Plan be implemented so that necessary precautions are taken prior to any renovation or demolition of painted surfaces.

Additional Environmental Record Resources

Standard Environmental Record Sources

As part of the 2016 Phase I ESA, WSP Amicus ordered an environmental database search from Environmental Data Resources (EDR) to identify any current or historic spill or release sites. The EDR database search listed approximately 42 sites within a 1-mile radius of the property area. Several of sites are listed on the State of California's Envirostor and Geotracker databases. Of the 42 sites listed from the EDR database search, there is no evidence that any of the 42 listed sites pose an environmental concern to the subject properties, such as identified releases or threatened releases from migrating hazardous substances or petroleum products that have not been remediated. See **Appendix F** for the listed sites.

[1] The project site is within Zone 1 of the Euclid Improvements Area.

Transaction Screen for 375 Donohoe Street

WSP conducted an environmental transaction screen for one of the parcels on the proposed water tank site in 2016 (APN 063-148-130). This screening included a regulatory database search and site investigation for this 10,800 square foot area. Based on this report, no potential environmental concerns were identified for the subject property. Similar investigations were not conducted for remainder of the site.

Regulatory Agency File Reviews

As part of the 2019 Phase I ESA, WSP submitted a Freedom of Information Act request to obtain files from the Menlo Park Fire District, San Mateo County Department of Environmental Health, Menlo Park Municipal Water District, Bay Area Air Quality Management District, San Francisco Bay Regional Water Quality Control Board, and Menlo Park Municipal Water District to verify information identified during the site visit, document review, and in the regulatory database search for the subject property and adjoining properties. No records were identified by the Bay Area Air Quality Management District and Menlo Park Municipal Water District. To date, a response has not been received from the remaining agencies at the time of this report.

Environmental Cleanup Liens/Activity and Use Limitations

WSP conducted a search for the existence of environmental cleanup liens against the project site through the San Mateo County Clerk Recorders online database for the 2019 Phase I ESA. The search indicated no environmental cleanup liens have been reported for the properties on the project site.

Data Gaps

WSP identified the following data gaps in the 2019 Phase I ESA:

WSP was unable to interview any previous property owners or occupants of the subject property for the 2019 Phase I ESA. However, WSP determined there was sufficient information available through other sources to determine historical operations that were conducted at the subject property. Therefore, WSP determined this data gap did not affect their ability to identify RECs at the project site.

WSP did not inspect the interiors of residential units. The backyards and roof areas of each residential home and residential building were also not inspected. However, WSP determined this data gap did not affect their ability to identify RECs at the project site.

12.3.4 Current Site Operations and Conditions

Hazardous Materials/Wastes

Raw Materials Handling and Storage Practices

Raw materials at Woodland Park Apartments are stored at the building located at 2043 Euclid Avenue behind the leasing center at 2041 Euclid Avenue. These materials consist of latex paint in 5-gallon and smaller containers, 1-gallon containers of paint thinner, miscellaneous maintenance materials, and general-purpose cleaners. These materials are used for routine property maintenance.

The previous Phase I ESAs and interviews with facility personnel indicated that the handling of current raw materials and storage practices are substantially the same as they have been for the past five years.

According to the facility personnel and reviews of Geotracker and EDR, there have been no reportable spills or releases of raw materials within the subject property.

Solid and Hazardous Waste

The EDR showed one unit within the Woodland Park Apartments area, 2031 Euclid Avenue, listed as a generator of hazardous waste from the disposal of ACM in 2010. The property is identified with an EPA identification number CAC002653307. According to the California Department of Toxic Substances Control, the EPA identification number beginning with "CAC" indicates the number was issued as a state provisional or emergency number and that the property does not routinely generate hazardous waste. No other properties within the project area have an EPA identification number.

The next closest site identified as a generator of hazardous materials is located at 445 O'Keefe Road, approximately 350 feet west of the project site. This property was listed as a former auto detailing operation (HIST AUTO database) for an historic automobile related business. Currently, this address is a multi-unit apartment building.

These two database listings within the mapped area of interest did not indicate any potential environmental concerns for the project site.

The properties on the project site currently manage spent fluorescent bulbs and batteries as universal waste. According to personnel, the spent fluorescent bulbs and batteries are placed in boxes twice a year and sent offsite for recycling.

During WSP's site visit, no evidence of onsite waste disposal was noted. In addition, WSP observed no onsite pits, ponds, or lagoons.

Underground and Aboveground Tanks

Based on interviews of facility personnel and a review of historical records, no underground storage tanks (USTs) have ever been present at the subject properties. WSP did not identify any RECs based on a review of the facility's USTs or aboveground storage tanks (ASTs).

Water, Wastewater, and Storm Water

The current properties on the project site obtain potable water from two sources for public water supply including the O'Connor Tract Water District (for a small portion of the units) and American Water Works Company, Inc. (for the majority of the units). Routine maintenance of the water lines is reportedly performed on a regular basis.

Air Emissions

The current residential units are equipped with natural gas water heaters and natural gas and electric forced air heaters. None of the current residential units are equipped with air conditioning.

Polychlorinated Biphenyls

The EPA requires facilities to presume that any mineral oil filled equipment manufactured before July 2, 1979, contains PCBs, unless testing or other information demonstrates otherwise. Based on the age of the existing buildings (constructed between 1922 and 1969), WSP determined there is a potential that onsite electrical equipment contains PCBs.

Asbestos

During the site visit in 2019, WSP observed surfacing material, thermal system insulation, floor tiles or other sheet flooring, which are building materials that may contain asbestos. Based on WSP's observations, it appears that the building materials present would be considered presumed ACM. These findings were consistent with the observations from 2016.

As identified above, Phase I Environmental Site Assessment, asbestos was identified in various building materials including acoustical ceiling material, HVAC duct material, floor tile and mastic, vinyl floor material, joint and texturing compound. The tracking spreadsheet indicated ACM was removed from many subject property buildings; however, some ACM remains in place at many subject property buildings. WSP recommends continued implementation of the Asbestos O&M Plan with necessary precautions taken prior to any renovation or demolition of ACM areas.

Lead-Based Paints

At the time of the site visit, WSP did not observe any areas of damaged painted surfaces. As identified above in Section 12.3.2, Phase I Environmental Site Assessment, WSP reviewed a tracking spreadsheet for LBP identified in subject property buildings in each zone. WSP did not review a LBP O&M Plan. Based on their findings, a LBP O&M Plan exists and WSP recommends the LBP O&M Plan be implemented so that necessary precautions are taken prior to any renovation or demolition of painted surfaces.

Nonhazardous Wastes

Nonhazardous wastes generated on the project site include general residential and office trash, , and household recyclables. Wastes and recycled materials are placed in bins for collection from the single tenant residents or within dumpsters situated throughout the multi-family units within the properties on the project site. Nonhazardous waste is collected by Recology for offsite recycling and disposal.

Soil and Groundwater Contamination

Federal and state databases were also searched to determine the potential for the project site to be affected by releases from neighboring properties. The sites that have the greatest potential to have caused environmental contamination are those that have had releases or spills of hazardous substances or petroleum products located upgradient or in close proximity to the facility. The direction of localized groundwater flow at the properties is presumed to be to the north-northeast. Thus, the sites that are of the greatest potential concern are those that have had releases or spills of hazardous substances or petroleum products and are south-southwest (upgradient) or in close proximity to the project site. As noted above, there is no evidence that any of the 42 listed sites in the property area pose an environmental concern to the subject properties.

Other Potential Hazards

Other hazards potentially related to the proposed project and that are addressed in the CEQA Guidelines include wildland fire hazards and transport of hazardous materials on nearby roadways. The existing setting relative to these potential hazards are further discussed below. Chapter 13: Hydrology and Water Quality, discusses potential hazards related to flooding and inundation.

Wildland Fire Hazards

The risk of wildfire is limited in East Palo Alto due to its location in a highly urbanized portion of San Mateo County, with San Francisco Bay forming the eastern boundary of the community (City of East Palo Alto, 2017). According to the CALFIRE FHSZ Map Viewer for San Mateo County, East Palo Alto is outside of a State Responsibility Area for wildfires, which means local responsibility for fire protection falls to city fire departments, fire protection districts, counties, and CAL FIRE under contract to local government.

Hazardous Materials Transport on Roadways

The project site is located in proximity to East Bayshore Road, West Bayshore Road, and a portion of University Avenue which may be used for the transport of hazardous wastes and materials associated with local businesses and industry as shown in Figure 12-1: Hazardous Material Truck Routes. Truck accidents could result in upset or spills of such materials. The transport of hazardous materials is subject to federal, State, and local regulations to minimize impacts and risks associated with the transportation of hazardous materials.

Airport Proximity

The nearest public airport, public use airport, and/or private airstrip is the Palo Alto Airport. The project site is located approximately 1.4 miles west of the Palo Alto Airport and is outside of the Airport Influence Area (AIA). The Palo Alto Airport Comprehensive Land Use Plan (CLUP) is the land use plan that ensures new surrounding land uses do not affect the airport's operations. The CLUP is discussed in further detail below.

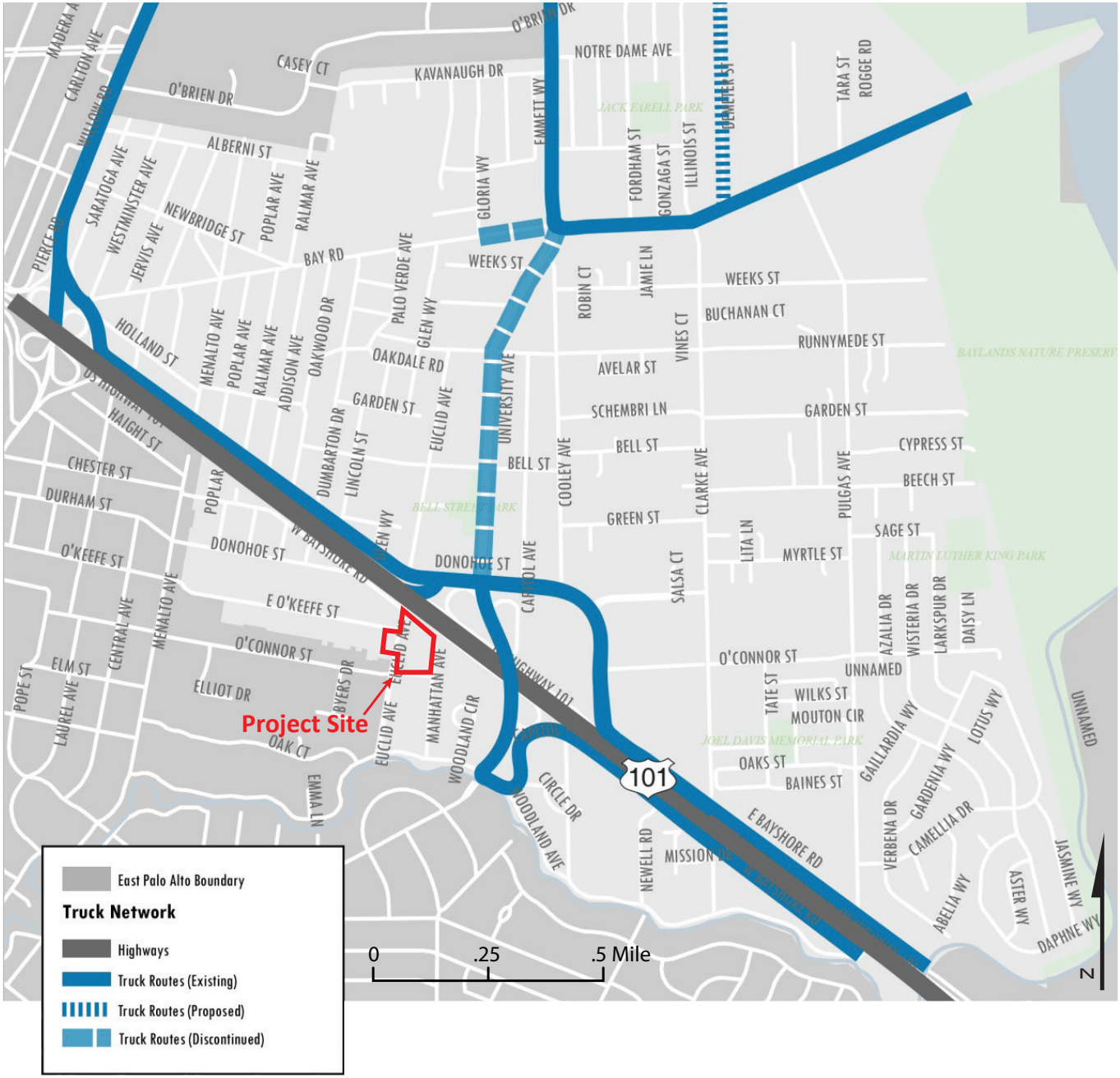
12.4 Applicable Regulations, Plans, and Standards

The management of hazardous materials and hazardous wastes is regulated at federal, state, and local levels, including, among others, through programs administered by the U.S. Environmental Protection Agency (U.S. EPA); agencies within the California Environmental Protection Agency (CalEPA), such as the DTSC; federal and state occupational safety agencies; and the San Mateo County Environmental Health Division. Regulations pertaining to flood hazards are discussed in Chapter 13: Hydrology and Water Quality, and regulations for geologic and soil-related hazards are discussed in Chapter 10: Geology and Soils.

12.4.1 Federal

Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The federal Toxic Substances Control Act of 1976 and Resource Conservation and Recovery Act (RCRA) established a program administered by the U.S. EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes.



Source: City of East Palo Alto, 2016

Figure 12-1: Hazardous Material Truck Routes

Woodland Park Euclid Improvements
Draft EIR

Kimley»Horn
Expect More. Experience Better.

Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law (U.S. Code Title 42, Chapter 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables the revision of the National Contingency Plan (NCP). The NCP (Title 40, Code of Federal Regulation [CFR], Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Occupational Safety and Health Administration (OSHA)

OSHA's mission is to ensure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA staff establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in Title 29 CFR Part 1910.

OSHA's Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) applies to five distinct groups of employers and their employees. This includes any employees who are exposed or potentially exposed to hazardous substances — including hazardous waste — and who are engaged in one of the following operations:

- Clean-up operations — required by a governmental body, whether federal, State, local, or other involving hazardous substances — that are conducted at uncontrolled hazardous waste sites;
- Corrective actions involving clean-up operations at sites covered by RCRA as amended (42 U.S.C. 6901 et seq.);
- Voluntary clean-up operations at sites recognized by federal, state, local, or other governmental body as uncontrolled hazardous waste sites;
- Operations involving hazardous wastes that are conducted at treatment, storage, and disposal facilities regulated by Title 40 Code of Federal Regulations Parts 264 and 265 pursuant to RCRA, or by agencies under agreement with U.S. EPA to implement RCRA regulations; and
- Emergency response operations for releases of, or substantial threats of releases of, hazardous substances regardless of the location of the hazard.

12.4.2 State

California Environmental Protection Agency

CalEPA has jurisdiction over hazardous materials and wastes at the State level. DTSC is the department of CalEPA responsible for implementing and enforcing California's own hazardous waste laws, which are known collectively as the Hazardous Waste Control Law. DTSC regulates hazardous waste in California

primarily under the authority of the federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Although similar to RCRA, the California Hazardous Waste Control Law and its associated regulations define hazardous waste more broadly and regulate a larger number of chemicals. Hazardous wastes regulated by California but not by the USEPA are called "non-RCRA hazardous wastes. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Government Code Section 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, Department of Health Services lists of contaminated drinking water wells, sites listed by the State Water Resources Control Board (SWRCB) as having underground storage tank leaks and have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The California Health and Safety Code, Division 20, Chapter 6.95, known as the Hazardous Materials Release Response Plans and Inventory Act or the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Businesses must submit this information to the County Environmental Health Division. The Environmental Health Division verifies the information and provides it to agencies responsible for protection of public health and safety and the environment. Business Plans are required to include emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material, including, but not limited to, all of the following:

- Immediate notification to the administering agency and to the appropriate local emergency rescue personnel.
- Procedures for the mitigation of a release or threatened release to minimize any potential harm or damage to persons, property, or the environment.
- Evacuation plans and procedures, including immediate notice, for the business site.

Business Plans are also required to include training for all new employees, and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the State hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The act is implemented by regulations contained in Title 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements. These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) required the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (a.k.a. Tiered Permitting); Aboveground Petroleum Storage Tank SPCC; Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or "Community-Right-To-Know"); California Accidental Release Prevention Program (Cal ARP); Underground Storage Tank (UST) Program; and Uniform Fire Code Plans and Inventory Requirements.

The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA.

Department of Toxic Substance Control (DTSC)

DTSC is a department of Cal EPA and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of the federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Government Code §65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, Department of Health Services (DHS) lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks and have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

California Office of Emergency Services (OES)

To protect the public health and safety and the environment, the California OES is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and the health risks) needs to be available to firefighters, public safety officers, and regulatory agencies. The information must be included in these institutions' business plans to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment.

These regulations are covered under Chapter 6.95 of the California Health and Safety Code Article 1–Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2–Hazardous Materials Management (Sections 25531 to 25543.3). CCR Title 19, Public Safety, Division 2, Office of Emergency Services, Chapter 4–Hazardous Material Release Reporting, Inventory, and Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide

standards for Hazardous Materials Business Plans (HMBP). These plans shall include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7; (2) emergency response plans and procedures in accordance with Section 2731; and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the State. Each business shall prepare a HMBP if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following: 500 pounds of a solid substance, 55 gallons of a liquid, 200 cubic feet of compressed gas, a hazardous compressed gas in any amount, or hazardous waste in any quantity.

California Occupational Safety and Health Administration

Cal/OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Asbestos-Containing Materials Regulations

State-level agencies, in conjunction with the EPA and OSHA, regulate removal, abatement, and transport procedures for asbestos-containing materials (ACM). Release of asbestos from industrial, demolition, or construction activities are prohibited by these regulations and medical evaluation and monitoring is required for employees performing activities that could expose them to asbestos. Additionally, the regulations include warnings that must be heeded and practices that must be followed to reduce the risk for asbestos emissions and exposure. Finally, state, and local agencies must be notified prior to the onset of demolition or construction activities with the potential to release asbestos.

Lead-Based Paint Regulations

Cal OSHA's Lead in Construction Standard is contained in 8 CCR Section 1532.1. The regulations address all of the following areas: permissible exposure limits (PELs); exposure assessment; compliance methods; respiratory protection; protective clothing and equipment; housekeeping; medical surveillance; medical removal protection (MRP); employee information, training, and certification; signage; record keeping; monitoring; and agency notification.

12.4.3 Local

City of East Palo Alto Hazard Mitigation Plan

The City currently participates in the San Mateo County Hazard Mitigation Plan (HMP). The HMP is intended to enhance public awareness, create a decision tool for management, promote compliance with State and federal program requirements, enhance local policies for hazard mitigation capacity, support viability after a hazard event, and provide inter-jurisdictional coordination. The HMP is designed to conform to the requirements of the Disaster Mitigation Act of 2000, which requires all cities, counties, and special districts to adopt a HMP to receive disaster mitigation funding from the Federal Emergency Management Agency.

City of East Palo Alto Emergency Operations Plan (EOP)

The City of East Palo Alto adopted its Emergency Operations Plan (EOP) in January 2011. The EOP identifies resources for emergency response and establishes coordinated action plans for specific emergency situations and disasters such as hazardous materials incidents and specifies emergency evacuation routes. These routes include University Avenue and Bay Road. The EOP incorporates the City of East Palo Alto into the National Incident Management System, California Standardized Emergency Management System, and Incident Command System.

Palo Alto Airport Comprehensive Land Use Plan (CLUP)

The Palo Alto Airport CLUP was adopted in 2008 by the Santa Clara County Airport Land Use Commission (ALUC) and amended in 2016. The CLUP defines safety zones around the airport, several of which intersect the City. The Traffic Pattern Zone (TPZ) includes developed parts of the City and is the portion of the airport area routinely overflown by aircraft operating in the airport traffic pattern. The project site is located outside of the TPZ.[2]

The project site is located approximately 1.4 miles west of the Palo Alto Airport and is outside of the AIA. The AIA is a composite of areas surrounding the Airport that are affected by noise, height, and safety considerations. The AIA is defined as a feature-based boundary around the Airport within which all development projects must be evaluated by local agencies to determine how the Airport Comprehensive Land Use Plan may impact the proposed development. This evaluation is to determine that the development meets the conditions specified for height restrictions, and noise and safety protection to the public. [A.B. 332 (Stats. 2003) to be codified in Public Utilities Code 21674.7 (b)].

Vista 2035 East Palo Alto General Plan

General plan policies relative to hazards and hazardous materials are identified below. Relevant General Plan Policies that directly address reducing hazards and hazardous material impacts include the following:

Safety and Noise

Goal SN 3: Reduce the risk of fire and wildfire hazards in the community.

- Policy 3.6: Development Impact Fee. Coordinate with MPFPD in examining an impact fee on new development in order to help ensure provision of services in the event of demand increases.

Goal SN 4: Protect the community from public safety hazards related to aircraft, surface transportation, and hazardous materials.

- Policy 4.1: Contamination. Avoid or minimize risk to the community from exposure to contaminated soils or groundwater.
- Policy 4.2: Management of hazardous materials. Continue to cooperate with federal, state, and county agencies to effectively regulate the management of hazardous materials and hazardous waste.

[2] City of East Palo Alto. 2016. Vista 2035 East Palo Alto General Plan Update EIR, page 4.8-11, Figure 4.8-1.

- Policy 4.3: Risk Management Plans. Continue to cooperate with the Certified Unified Program Agency (CUPA) for East Palo Alto (the County of San Mateo Health System) and the Menlo Park Fire Protection District to administer Risk Management Plans for businesses within the City.

  Goal SN 5: Protect the community from public safety hazards related to aircraft, surface transportation, and hazardous materials

- Policy 5.2: Hazard mitigation planning. Continue to participate in Local Hazard Mitigation Planning through the Association of Bay Area Governments (ABAG), San Mateo Office of Emergency Services, FEMA, and surrounding jurisdictions.

Westside Area Plan

The Westside Area Plan is a separate chapter of the Vision 2035 General Plan, providing more detailed goals and policies for the Westside area of East Palo Alto. There are no specific policies related to hazards and hazardous materials in the Westside Area Plan.

12.5 Environmental Impacts and Mitigation Measures

12.5.1 Significance Criteria

The following significance criteria for hazards and hazardous materials were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of potential impacts related to this project.

An impact of the project would be considered significant and would require mitigation if it would meet one of the following criteria:

- 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, 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 or excessive noise 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, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

12.5.2 Summary of No and/or Beneficial Impacts

Wildland Fires

As noted in the Vista 2035 East Palo Alto General Plan, the risk of wildfires is limited in East Palo Alto due to its location in a highly urbanized portion of San Mateo County, with San Francisco Bay forming the eastern boundary of the community. The proposed project is within a developed area and not within a Very-High Fire Hazard Severity Zone as mapped by CALFIRE. Because the project is not within an area identified as having a high potential for wildland fire, the project would have no impact related to exposing people or structures to a significant risk of loss, injury, or death from wildland fire, as per CEQA Guidelines.

12.5.3 Impacts of the Proposed Project

Impact HAZ-1: The project has the potential to create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. This impact is less than significant with mitigation incorporated.

Construction

The primary issue here is the disposal of demolished or excavated materials that may be contaminated. The project would require complete demolition of the existing structures on the project site and site clearing of existing pavement and materials for all areas to be developed. Site clearing of existing pavement would include demolition of existing structures and areas that could contain asbestos from asbestos-containing material (ACM) areas and lead-based paint (LBP) from painted surfaces. The 2019 Phase I ESA revealed the presence of asbestos in many subject properties on the project site. While the tracking spreadsheet indicated ACM was removed from the subject property buildings, there are still some ACM areas remaining in many of these properties. Asbestos has been identified in various building materials including acoustical ceiling material, HVAC duct material, floor tile and mastic, vinyl floor material, and joint and texturing compound. As noted above, an Asbestos O&M Plan was developed in 2014. WSP recommends continued implementation of the Asbestos O&M Plan with necessary precautions taken prior to any renovation or demolition of ACM areas to reduce construction workers and future site users to hazardous contamination. Polychlorinated Biphenyls (PCBs) may also be present based upon the age of the buildings.

There is also the potential for LBP to be present on the project site due to the age of the buildings. Past paint samples indicated 0.44 percent lead, which is below the Housing and Urban Development's guideline for lead paint of 0.5 percent. While WSP did not observe any damaged painted surfaces during their site visit, WSP recommends continued implementation of the existing LBP O&M plan so necessary precautions are taken prior to any renovation or demolition of painted surfaces. The transport of demolished materials would be removed from the project site and transported via City designated truck routes used for the transport of hazardous materials to Ox Mountain Landfill for disposal. For these reasons, there would be minimal hazard to the public, as these construction activities would not be ongoing or routine. In addition, the proposed project would be required to comply with all applicable federal, State, and regional regulations which are intended to avoid impacts to the public and environment. Compliance with all applicable regulations during construction, as required by the DTSC,

San Francisco Bay RWQCB and California OES, together with implementation of preventative measures MM HAZ-1.1 and MM HAZ-1.2, would effectively reduce the potential for significant hazards to the public or environment from construction-related transport, use, or disposal of hazardous materials brought to our off-hauled from the site.

Operation

The project proposes a mix of residential units with neighborhood serving retail, community space and open space. These types of uses and facilities may generate, store, use, or dispose of small amounts of hazardous materials such as heavy metals, household chemicals, gasses, oils, solvents, paints, pesticides, and fertilizers necessary for ongoing maintenance of buildings and grounds. All materials and substances would be subject to applicable health and safety requirements. The typical types and quantities of materials anticipated do not pose an acute or significant hazard to the public or environment compared to existing environmental site conditions, which use similar materials and substances. Thus, impacts related to typical operations would be less than significant.

MM HAZ-1.1 Asbestos Operation and Management Plan

Prior to demolition and removal of material from the site, the project applicant shall implement the recommendations of the 2014 Asbestos O&M Plan for work involving asbestos-containing material. These measures include asbestos training and specific work procedures for employees managing asbestos contaminated materials, notification procedures for building owners and occupants, asbestos clean-up and emergency response procedures, and recordkeeping of identified asbestos contaminated materials. The plan shall be reviewed and approved by the City of East Palo Alto prior to implementation.

MM HAZ-1.2 Lead Based Paint and PCB Operation and Management Plan

Prior to any renovations or demolition, the project applicant shall implement the recommendations of the LBP O&M Plan for work involving lead based painted surface areas to be carried out. These measures include training and special work procedures for employees managing lead-based paint materials, notification procedures for building owners and occupants, emergency response procedures, and recordkeeping of identified lead-based paint materials. The plan shall be reviewed and approved by the City of East Palo Alto prior to implementation. The project shall also follow current San Francisco Bay Regional Water Quality Control Board requirements for identifying and controlling PCB's during building demolition, if present.

Conclusion

During construction activities, such as demolition of the existing structures, there is a potential for asbestos from ACM areas and LBP from painted surfaces to be exposed. However, the proposed project would be required to comply with all applicable regulations during construction, as required by the DTSC and California OES, together with implementation of preventative measures MM HAZ-1.1 and HAZ-1.2. Compliance with these regulations, together with implementation of MM HAZ-1.1 and HAZ-1.2 would reduce potential impacts for significant hazards to a **less than significant** impact.

Impact HAZ-2: The project could 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. This is a less than significant impact with mitigation incorporated and compliance with existing regulations.

Construction

Construction of the project would require demolition, site preparation and construction of new structures as stated previously. As discussed previously, asbestos in some properties on the project site have been identified. Additionally, there are areas of damaged painted surfaces on the project site that may contain LBP based on the age of the buildings. During construction activities, the transport of these hazardous materials offsite for disposal may pose a risk of accidental release of hazardous materials into the environment.

However, compliance with all applicable regulations during construction, as required by the DTSC and California OES, together with implementation of preventative measures MM HAZ-1.1 and HAZ-1.2 would effectively reduce construction worker and future site user exposure to hazardous materials contamination to a **less than significant** level.

Operation

As discussed above, the type of uses proposed by the project and the localized generation, use and disposal of modest amounts of hazardous materials in daily operations (heavy metals, household chemicals, oils, solvents, paints, pesticides, and fertilizers, etc.) do not present a reasonably foreseeable upset and accident risk that could release hazardous materials into the environment. There are no aspects of the project that are at risk from significant upset, explosion, or storage of volatile substances that would put the public or environment at risk based on this standard.

All proposed uses and facilities within the project would be required to comply with all applicable federal, State, and regional regulations which are intended to avoid impacts to the public and environment. For these reasons, potential impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment are considered **less than significant**.

Impact HAZ-3: The project would handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. This is a less than significant impact with mitigation incorporated.

Construction

The nearest school to the project site is Alto International School, located approximately 0.20 miles southwest of the project site, in the City of Menlo Park. As discussed previously, there is a potential for asbestos from ACM areas and LBP from painted surfaces to be exposed, removed and transported during construction activities, such as site clearing and demolition. All transported materials would be hauled out via University Avenue, which is an existing truck route that allows the transport of hazardous

materials subject to federal, State, and local regulations. While the project would involve the transport and disposal of demolition and excavation waste, it would not involve the significant use, storage, or risk of upset of hazardous materials given the type of uses proposed and materials present. Nonetheless, this "handling" of material would occur within one-quarter mile of the nearest school to the project site.

The proposed project would implement preventative measures MM HAZ-1.1 and MM HAZ-1.2 ensuring that necessary precautions are taken prior to demolition to reduce risk to construction workers and future site users to hazardous contamination exposure. Additionally, the project would be required to comply with all applicable federal, State, and regional regulations which are intended to avoid impacts to the public and environment. Given the truck route would take the demolition and excavation waste away from the nearest school site and preventative measures MM HAZ-1.1 and MM HAZ-1.2 would be in place to ensure necessary precautions, there would not be an acute risk to the school from the transport of this material. For these reasons, construction impacts related to the emission of hazardous materials would be **less than significant**.

Operation

While the project site is within one-quarter mile of this existing school, the types of uses proposed by the project would typically handle only small amounts of hazardous materials (i.e., heavy metals, household chemicals, oils, solvents, paints, pesticides, fuels for generators and fertilizers) that are typical of the surrounding residential uses. In addition, the water tank pump house would store enough diesel fuel to run the pump for emergency fire flow for several hours. This small amount of fuel would be secured within the pump house and would not be considered an acute risk of contamination or emissions as it would only be used under special circumstances. If handled and disposed of properly, these small amounts of hazardous materials would not pose a significant risk on existing or proposed school sites during normal project operations. Impacts would therefore be **less than significant**.

Impact HAZ-4: The project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. This impact is less than significant.

Construction and Operation

As noted previously, the project site is not listed on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Aside from a concern for a potential REC (e.g. pesticides) in the 2015 Phase I ESA, the results of the soil sampling conducted in 2011 determined soils in the project site to be free of pesticides (WSP, 2019). According to the 2019 Phase I ESA, there is no further evidence of a recognized environmental concern (REC) in connection with the project site.

The EDR search conducted as part of the 2016 Phase I ESA showed no database listing for the project property, but 42 sites were mapped within the 1-mile radius of the project area. While several of these sites were posted to the Geotracker or Envirostor databases, there is no evidence that these sites pose an environmental concern to the subject properties (WSP, 2019).

As discussed previously, there is a potential for asbestos from ACM areas and LBP from painted surfaces to be exposed during construction activities, such as site clearing and demolition. To avoid hazardous impacts to the public and environment, the project would be required to comply with all applicable

federal, State, and regional regulations and implement preventative measures MM HAZ-1.1 and MM HAZ-1.2 so necessary precautions are taken prior to any renovations or demolition. Based on the significance threshold for this impact (whether the project is identified on a list of hazardous materials sites), the impact is **less than significant**.

Impact HAZ-5: The project is located within two miles of a public airport or public use airport, but is not located within the Airport Influence Area, resulting in a less than significant safety hazard for people residing or working in the project area.

While the project site is located within 2 miles of a public airport or public use airport (Palo Alto Airport), the site is located outside of the Airport Influence Area (AIA), which is the area surrounding airport that is affected by noise, height, and safety considerations. The project is located approximately 1-mile northwest from the AIA. In addition, the project is located approximately 0.5 mile outside of the Traffic Pattern Zone (TPZ), which indicates there is a low potential for aircraft accidents and the need for land use restrictions. The project would not affect an airport land use plan or private airstrip and these effects are not evaluated further.

Impact HAZ-6: The project would not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. This impact is less than significant.

Construction

As discussed above, the City adopted its EOP in January 2011. The EOP identifies emergency evacuation routes in the City and courses of action for specific emergency situations and disasters. As shown in Figure 4.8-2 of the East Palo Alto General Plan Update EIR, the project site is approximately 0.15-mile west of University Avenue, which is identified as an emergency evacuation route by the City. No off-site roadway improvements to the project sites' neighboring streets are anticipated. Thus, any potential closures from project construction for utility relocation or movement of heavy equipment would be short term and would be coordinated with the Public Works Department as part of standard traffic management measures. Therefore, the proposed project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Impacts are considered **less than significant**.

Operation

As discussed above, the project would operate as a residential community with apartment buildings, with neighborhood serving retail, community space and open space. One pedestrian entrance to the lobby/amenity space would be accessed from O'Connor Street and one pedestrian entrance to the lobby/common space would be accessed from Euclid Avenue as shown in Figure 3-5: Proposed Site Plan. The parking garage entrance would be accessed from Manhattan Avenue. Fire truck staging areas would be located on Manhattan Avenue, Euclid Avenue, and East O'Keefe Street. The addition of project traffic would not block roads or intersections in a way that impairs the ability of emergency providers to respond and adhere to emergency response and/or evacuation plans. Based on the supplemental traffic operations study and transportation demand measures incorporated as part of the project, there is no

evidence that the project's operations would significantly impair or impede local emergency response or evacuation plans. Impacts are considered **less than significant**. Please see also Chapter 17, Transportation, as well as the cumulative impact discussion below.

12.5.4 Cumulative Impact Analysis

Impact HAZ-7: The project, in conjunction with other development projects as identified by the City, could not contribute to cumulatively considerable impacts from hazards and hazardous materials. This is a less than significant impact.

Most hazards and hazardous material impact from development are site-specific and if properly designed would not result in additive worsening of the environmental or public health and safety. The EIR evaluates RECs in connection with the project site and surrounding area. Regarding the off-site RECs, the database search documents the findings of various governmental database searches regarding properties with known or suspected releases of hazardous materials or petroleum hydrocarbons within a search radius of up to one mile from the site and serves as the basis for defining the cumulative impacts study area.

The project, when combined and considered with the list of other existing, planned and reasonably foreseeable development projects listed in Chapter 4, has little potential to increase risk to residents, employees, workers of the general public from the transport or exposure to hazardous conditions or materials.

Based on the traffic study and transportation demand measures incorporated as part of the project in the event of a major emergency, there is no evidence that suggests the addition of residents from the project would significantly impair or impede local emergency response or evacuation plans.

12.6 References

CAL FIRE (California Department of Forestry and Fire Protection). 2020. FHSZ Viewer. https://egis.fire.ca.gov/FHSZ/

City of East Palo Alto. Emergency Operation Plan. January 2011, adopted April 5, 2011.

City of East Palo Alto. 2016. City of East Palo Alto Hazard Mitigation Plan. https://www.ci.east-palo-alto.ca.us/DocumentCenter/View/46. Accessed on May 20, 2020.

County of Santa Clara Airport Land Use Commission. 2016. *Palo Alto Airport Comprehensive Land Use Plan*.

13 Hydrology and Water Quality

13.1 Introduction

This section describes the project's potential to adversely affect local hydrologic conditions (drainage patterns and runoff volumes), surface and groundwater quality, or cause the release of pollutants due to inundation from flooding. Due to the unique location of the project and in light of available data regarding future sea level rise, coastal hazards are also addressed in this section. Information used to prepare this section came from the following primary resources:

- Aerial/satellite imagery
- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Infrastructure, Services, and Facilities Element, 2017
- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Safety and Noise Element, 2017
- Project application and related materials (including a Preliminary Stormwater Management Plan)

13.2 Scoping Issues Addressed

During the Notice of Preparation (NOP) public comment and scoping period for the proposed project several comments were received regarding hydrology and water quality, specifically related to the protection of San Francisquito Creek. These issues are addressed in this chapter.

13.3 Environmental Setting

Regional Drainage

The City of East Palo Alto is located in the South Bay Drainage Unit, which is characterized by a broad alluvial valley sloping toward the San Francisco Bay and flanked by the Diablo Range in the East Bay and the Santa Cruz Mountains in the west (City of East Palo Alto, 2017). Regional drainage in the City drains into two major drainage systems: the Runnymede Storm Drain System and the O'Connor Storm Drain System.

Flooding

Flood Insurance Rate maps partition flood areas into zones: Zone A for areas of 100-year flood; Zone B for areas of 500-year flood; and Zone C and X for areas outside 500-year floodplain, which are areas of minimal flooding. The National Flood Insurance Program 100-year floodplain is considered the base flood condition. This is defined as a flood event of a magnitude that would equal or exceed an average of once during a 100-year period. Floodways are defined as stream channels plus adjacent floodplains that must be kept free of encroachment as much as possible so that 100-year flood events can occur without substantial increases (no more than one foot) in flood elevations.

Based on the Federal Emergency Management Agency (FEMA) mapped Flood Insurance Rate Map (FIRM) for this area, the project site is located within Zone X, which indicates minimal risk of flooding (FEMA, 2020). The project site is not located within the 100-year floodplain.

Tsunami and Seiches

A tsunami is a large ocean wave generated by an earthquake or landslide in or near the ocean. Tsunamis are a series of very long-period waves (lasting five minutes to several hours) that are low in height when traversing water of oceanic depth. The City's location within the interior San Francisco Bay limits its potential for tsunami damage, but sea surges may impact areas of the City directly adjacent to the Bay. The project site is outside of a tsunami inundation zone (CGS, 2020).

Seiches are earthquake-generated waves within an enclosed body of water like a lake or a reservoir. The City is not within major enclosed bodies of water, but the risk of seiches are still considered in hazard planning. The project site is not within a seiche inundation zone.[1]

Sea Level Rise

The Bay Conservation and Development Commission (BCDC) has mapped areas throughout the Bay region susceptible to inundation from potential sea level rise scenarios (City of East Palo Alto, 2016). Figure 10-4 in the Vista 2035 East Palo Alto General Plan shows the areas along the Central Bay West Coast identified as being potentially exposed to inundation related to sea level rise. The project site is outside of potential risk areas and not subject to impacts from sea level rise.

Groundwater

The City owns one groundwater supply well at Gloria Way and Bay Road, which is approximately 0.66 mile north of the project site. However, the water from this well is only used for non-potable purposes, such as street cleaning, dust control, and sewer-line flushing (City of East Palo Alto, 2017). Currently, there are no water storage reservoirs or potable groundwater sources in the City with the exception of small private water storage at the Home Depot and IKEA for fire flow needs. The City is working to upgrade the Gloria Way Well and develop a second groundwater well at "Pad D", a City-owned parcel near the Gateway 101 Shopping Center (City of East Palo Alto, 2016).

As discussed in Chapter 10, Geology and Soils, groundwater was encountered in all five borings conducted by Geosphere Consultants during their field exploration. Groundwater was encountered measured at depths of 15 to 16 feet after drilling. The historical high (i.e., shallowest) groundwater depth is estimated to be on the order of 13 feet at the project site based on a groundwater contour map presented in California Geological Survey's *Seismic Hazard Zone Report for the Palo Alto 7.5-minute Quadrangle* (Geologic Consultants, 2019). It is noted that the borings conducted may not have been left open for a sufficient period of time to establish groundwater equilibrium (Geologic Consultants, 2019).

Stormwater

The City has two major storm drain systems: the Runnymede Storm Drain System and the O'Connor Storm Drain System. Due to its proximity to the San Francisco Bay, portions of the drainage system are influenced by tides. Stormwater lines in the project area drain into the O'Connor Storm Drain System which flows into the O'Connor Detention Pond and the O'Connor Pump Station and ultimately flows to an outfall into San Francisquito Creek.

[1] City of East Palo Alto. 2017. Vista 2035 East Palo Alto General Plan. See page 10-4, Figure 10-2.

There are existing storm drains that extend along O'Connor Street, Euclid Avenue, West Bayshore Road, and Manhattan Avenue, including an existing 12-inch storm drain that extends along Euclid Avenue from O'Connor Street to West Bayshore Road. An existing 20-inch storm drains extends along O'Connor Street from Euclid Avenue and Manhattan Avenue, and a 10-inch storm drain extends along Manhattan Avenue and West Bayshore Road. According to the City's Storm Drain Master Plan, the Euclid Avenue Storm Drain (to which the project area currently drains) has existing capacity issues.

13.4 Applicable Regulations, Plans, and Standards

Federal

Clean Water Act

The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States (U.S.) and has given the U.S. Environmental Protection Agency (U.S. EPA) the authority to implement pollution control programs. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The proposed project is within the jurisdiction of the San Francisco Bay RWQCB.

Section 402 of the Clean Water Act authorizes the California SWRCB to issue NPDES General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), referred to as the "General Construction Permit." Construction activities can comply with and be covered under the General Construction Permit provided that they:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off site into receiving waters.
- Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the nation.
- Perform inspections of all BMPs.

The SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Increased compliance tasks under the adopted 2009 Construction General Permit include project risk evaluation, effluent monitoring, receiving water monitoring, electronic data submission of the SWPPP and all other permit registration documents, and a Rain Event Action Plan (REAP), which must be designed to protect all exposed portions of a project site within 48 hours prior to any likely precipitation event.

Section 401 of the CWA requires that any activity—including river or stream crossing during road, pipeline, or transmission line construction—that may result in discharges into a State waterbody be certified by the RWQCB. This certification ensures that the proposed activity does not violate State and/or federal water quality standards. The limits of non-tidal waters extend to the Ordinary High Water Mark (OHWM), which is defined as the line on the shore established by the fluctuation of water and indicated by physical characteristics, such as natural line impressed on the bank, changes in the character of the soil, and presence of debris. The U.S. Army Corps of Engineers (USACE) may issue either individual, site-specific permits or general, nationwide permits for discharge into US waters.

Section 404 of the CWA requires a permit for construction activities involving placement of any kind of fill material into waters of the U.S. or wetlands. A Water Quality Certification pursuant to Section 401 of the CWA is required for Section 404 permit actions. If applicable, construction would also require a request for Water Quality Certification (or waiver thereof) from the RWQCB.

When an application for a Section 404 permit is made, the applicant must show it has:

- Taken steps to avoid impacts to wetlands or waters of the U.S. where practicable;
- Minimized unavoidable impacts on waters of the U.S. and wetlands; and
- Provided mitigation for unavoidable impacts.

Section 303(d) of the CWA (CWA, 33 USC 1250, et seq., at 1313(d)) requires states to identify "impaired" water bodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to U.S. EPA for review and approval. An affected waterbody, and associated pollutant or stressor, is then prioritized in a list of impaired water bodies known as the 303(d) List. The CWA further requires the development of a Total Maximum Daily Load (TMDL) for each listing.

National Flood Insurance Program (NFIP)

The NFIP, implemented by the Congress of the United States in 1968, enables participating communities to purchase flood insurance. Flood insurance rates are set according to flood-prone status of property as indicated by FIRMs developed by FEMA. FIRMs identify the estimated limits of the 100-year floodplain for mapped watercourses, among other flood hazards. As a condition of participation in the NFIP, communities must adopt regulations for floodplain development intended to reduce flood damage for new development through such measures as flood proofing, elevation on fill, or floodplain avoidance.

State

Senate Bill (SB) 610

SB 610 was passed on January 1, 2002, amending California state law to require detailed analysis of water supply availability for large development projects. An SB 610 Water Supply Assessment (WSA) must be prepared if the following three conditions are met: 1) the proposed project is subject to CEQA under Water Code Section 10910; 2) the proposed project meets criteria to be defined as a "Project" under Water Code Section 10912; and 3) the applicable water agency's current Urban Water Management Plan (UWMP) does not account for the water supply demand associated with the proposed project. A proposed project would meet the definition of "Project" per Water Code Section 10912 if it is:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (sf) of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 sf of floor space;
- A proposed hotel or motel, or both, having more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sf of floor area;
- A mixed-use project that includes one or more of the projects specified in this subdivision; or
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project (DWR, 2003b).

With a net addition of 444 units over existing conditions, a WSA is not required for the project.

California Water Code §13050-§13260

California Water Code §13050. California Water Code §13050(e) defines "waters of the state" as "any surface water or groundwater, including saline waters, within the boundaries of the state." California Water Code §13260 requires that any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the State, other than into a community sewer system, must submit a report of waste discharge to the applicable RWQCB.

Porter-Cologne Water Quality Control Act

SWRCB regulates water quality through the Porter-Cologne Water Quality Act of 1969, which contains a complete framework for the regulation of waste discharges to both surface waters and groundwater of the state. On the regional level, the proposed project falls under the jurisdiction of the San Francisco Bay RWQCB, which is responsible for the implementation of state and federal water quality protection statutes, regulations and guidelines.

The San Francisco Bay RWQCB has authority to implement water quality protection standards through the issuance of permits for discharges to waters in its jurisdiction. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the RWQCB's master water quality control planning document. It designates beneficial uses and water quality objectives for "waters of the State," including surface waters and groundwater. The Plan also includes implementation programs to achieve water quality objectives. The Basin Plan is implemented by the RWQCB by issuing and enforcing waste discharge requirements, including permits for nonpoint sources discharged by stormwater drainage system.

Local

San Francisco Bay Regional Water Quality Control Board

Basin Plan

The San Francisco Bay Basin (Basin Plan) is the RWQCB's master water quality control planning document for the San Francisco Bay Basin. The Basin Plan designates beneficial uses and water quality

objectives for "waters of the State," including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan established water quality objectives for total dissolved solids (TDS), mineral constituents, and turbidity on a watershed-by watershed basis within the region, while objectives for total and fecal coliform bacteria, nutrients (total nitrogen and total phosphorus), pH, dissolved oxygen, and un-ionized ammonia are set on a region-wide basis.

NPDES Municipal Regional Permit Post-Construction Stormwater Quality Requirements

The City is a permittee under the NPDES Municipal Regional Permit and has the authority to administer section C.3 regarding post-construction stormwater controls. The provisions require the installation of post-construction Best Management Practices (BMPs) for new development as part of the federal NDPES program, and set standards for their implementation. The intent of these regulations is to rigorously control the quality and quantity of stormwater runoff from any new development that creates or replaces impervious area over 10,000 sf (or 5,000 sf for high water quality risk sites), so that receiving waters downstream are not adversely impacted.

To comply with these requirements, projects meeting these criteria are required to install water quality stormwater runoff BMPs that filter or treat rainfall runoff generated from storm events up to approximately the 85th percentile rainfall event (or approximately the 1-inch storm event) before discharging into storm drains or natural drainage systems. Projects are required to capture 100 percent of rainfall runoff from new impervious surfaces and to treat it in post-construction stormwater systems. Projects are required to implement Low Impact Development (LID) techniques such as harvesting and re-use, infiltration, evapotranspiration, and bioretention.

San Mateo Countywide Pollution Prevention Program

The San Mateo Countywide Pollution Prevention Program (SMCWPPP) emphasizes the integration of stormwater management features into streets and parking lots as part of a new urban landscape and provides resources and technical guidance on how to design, permit, and maintain post-construction stormwater controls in order to meet the current stormwater management requirements mandated in Provision C.3 of the Regional Municipal Stormwater Permit. An emphasis is placed on the integration of stormwater features such as bioretention facilities into areas such as streetscapes or parking facilities using low impact development techniques.

Municipal Operations

On November 10, 2015, the San Francisco RWQCB adopted Order R2-2015-0XXX, which requires numerous Bay Area jurisdictions, including East Palo Alto, are subject to water quality protective requirements governing routine maintenance activities. These requirements cover repair, maintenance, pavement washing, and graffiti removal activities for facilities such as streets, roads, sidewalks, and plazas. In addition to washing activities, stormwater pump stations are subject to regulations that include collecting bi-annual dissolved oxygen (DO) data and trash load data. Based on DO levels, corrective actions such as aeration may be required to maintain minimum DO in stormwater. Order R2-2015-0XXX also contains requirements for maintenance projects adjacent to creeks or wetlands, and requires SWPPPs for corporation yard projects not already covered under the SWRCB's Industrial Stormwater NPDES General Permit.

Water Treatment Plants Discharge Permits

Sewage collected in the City is collected by East Palo Alto Sanitary District (EPASD) and treated at the Palo Alto Regional Water Quality Control Plant(PARWQCP). Waste discharge from the PARWQCP is required to meet stringent standards to protect the health of the South Bay, where the water is discharged (City of East Palo Alto, 2017).

Vista 2035 East Palo Alto General Plan

Project relevant general plan policies for hydrology and water quality are addressed in this section. Where inconsistencies exist, if any, they are addressed in the respective impact analysis below. Relevant General Plan Policies that directly address reducing hydrological and water quality impacts include the following:

Infrastructure, Services, and Facilities

Goal ISF 1: Manage stormwater safely, efficiently, and sustainably.

- Policy 1.1: NPDES compliance. Ensure compliance with all NPDES requirements for litter control, dumping, pollutants of control, business operations, and new/re- development.
- Policy 1.2: On-site stormwater management. Encourage development projects to manage stormwater on site to reduce burdens on the City's stormwater system. Whenever possible, stormwater should be infiltrated, evapotranspirated, reused or treated on-site in other ways that improve stormwater quality and reduce flows into the storm drain system.
- Policy 1.3: Stormwater infrastructure for new development. Require development projects to pay for their share of new stormwater infrastructure or improvements necessitated by that development.
- Policy 1.4: Stormwater re-use and recycling. Encourage innovative ways of capturing and reusing stormwater for non-drinking purposes to reduce the use of potable water, including the creation of a recycled water system and installation of purple pipe in private and public projects.
- Policy 1.5: Collaborative stormwater management. Encourage collaborative, integrated stormwater management between multiple property owners and sites.
- Policy 1.8: Stormwater best practices. Encourage the use of best practices in stormwater treatment, retention, and quality and quantity control into flood control efforts, ensuring that flood control measures do not have negative ecological impacts on stormwater runoff.
- Policy 1.9: Stormwater and flooding. Integrate stormwater management efforts with flood control efforts, seeking synergies and innovative strategies for stormwater treatment to reduce flood risks and volumes.

Goal ISF 2: Ensure a sustainable, clean, long-term water supply.

- Policy 2.12: Groundwater recharge. Working with regional partners, explore options for groundwater recharge and prohibit new private groundwater wells.

- Policy 2.13: Maximizing infiltration. Consider requiring all new development to provide roof catchment systems, irrigated landscaping, and permeable pavements (where feasible), or other means to enhance on site infiltration of stormwater runoff or landscape irrigation water.

Safety and Noise

Goal SN 2: Provide adequate flood control and storm drainage facilities to minimize the risk of flooding.

- Policy 2.1: Flood Insurance Program. Continue to participate in the National Flood Insurance Program and FEMA's voluntary programs, such as the Community Rating System.
- Policy 2.2: Flooding related to sea level rise. Consider expanding boundaries of development control particularly where sea level rise could worsen flooding above predicted conditions.
- Policy 2.3: Development in floodways. Continue to control development in the floodway and floodway fringe.
- Policy 2.4: Floodplain Management Ordinance. Continue to enforce and consider strengthening the City's Floodplain Management Ordinance.

Westside Area Plan

The Westside Area Plan is a separate chapter of the Vision 2035 General Plan, providing more detailed goals and policies for the Westside area of East Palo Alto. One guiding principle of this plan is to address infrastructure deficiencies, as noted below:

> ***Address infrastructure deficiencies.*** There should be upgrades to the current infrastructure to address deficiencies on the Westside. This includes improved water quality and supply, improving flood protection from San Francisquito Creek, and upgrading existing water and sewer infrastructure.

Specific policies (9.1 Infrastructure upgrades; 9.3 Flood protection; and 9.5 Infrastructure for new development) may be relevant to the analysis of this chapter. The Plan's goals and policies are designed to ensure that upgrades to infrastructure address existing deficiencies on the Westside to ensure safe and reliable services for new and existing residents. Chapter 14, Land Use, Population and Housing, includes an analysis of the project's consistency with the Westside Area Plan.

East Palo Alto Municipal Code

Chapter 13.12.100 – Reduction of Pollutants and Supplemental Runoff in Stormwater

East Palo Alto Municipal Code Chapter 13.12.100 requires appropriate Best Management Practices to be implemented for construction activities to control the control the volume, rate, and potential pollutant load of storm water runoff from new development and redevelopment projects as required by the NPDES permit to minimize the generation, transport and discharge of pollutants. The City is required to incorporate BMP requirements in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. The owner and developer are required to comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this chapter and the NPDES permit as it may be amended from time to time.

These requirements may include a combination of structural and nonstructural BMP requirements to ensure the proper long-term operation and maintenance of these BMPs, including inspections and right of entry by city staff or agent to ensure compliance with the requirements of Chapter 13.12.100 or to enforce any provision of this article.

Chapter 13.12.105 – Development Design Requirements

Chapter 13.12.105 of the East Palo Alto Municipal code requires new and in-fill projects to incorporate stormwater treatment measures and site design techniques to minimize stormwater runoff pollution. New and in-fill redevelopment projects are required to conform to stormwater treatment measures and site design techniques such as BMPs, Impervious Areas, Surfacing, Operation and Management Agreements, Pedestrian Networks, Rooftop Runoff, Hydrograph Modification Management Plan, and Stenciling.

13.5 Environmental Impacts and Mitigation Measures

13.5.1 Significance Criteria

The following significance criteria for hydrology and water quality were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of potential impacts related to this project.

An impact of the project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Violate any water quality standards or waste discharge requirements or otherwise degrade surface water or groundwater quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge, such that the project may impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    - Result in substantial erosion or siltation on- or offsite.
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
    - Impede or redirect flood flows.
- In flood hazard, coastal hazard, tsunami, or seiche zones, risk coastal flooding and/or release of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

13.5.2 Summary of No and/or Beneficial Impacts

Flood Hazards and Inundation

As evidenced by the flood insurance map information referenced above, the project site would not be subject to flooding, coastal hazards, tsunami, seiche, or release of pollutants due to flooding and inundation. In the absence of these environmental conditions and associated risks, there would be no impact or further analysis of this subject.

13.5.3 Impacts of the Proposed Project

Impact HYD-1: The project is subject to stringent water quality control standards which would prevent potential degradation of local surface water or groundwater quality. This is a less than significant impact.

Construction

Construction-related activities associated with the project would include demolition, grading, and excavation, which would displace soils and temporarily increase the potential for soils to be subject to wind and water erosion. Currently, the primary project area consists of approximately 70 percent impervious surfaces such as buildings, sidewalks, and asphalt parking areas.

Construction-related erosion effects would be addressed through compliance with the NPDES program's Construction General Permit if construction activities, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity results in a land disturbance of equal to or greater than 1.0 acre. Because the proposed project would disturb more than one acre of land, the project applicant would be required to submit a Notice of Intent to the State Board and apply for coverage under the State NPDES General Permit for Construction Activities, prepare a Stormwater Pollution Prevention Plan (SWPPP), and submit it for review and approval prior to commencing construction. The Construction General Permit requires development and implementation of a SWPPP and monitoring plan, which must include erosion-control and sediment-control Best Management Practices (BMPs) that would meet or exceed measures required by the General Permit to control potential construction-related pollutants. Erosion-control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap sediment once it has been mobilized. The types of BMPs required would be based on the amount of soil disturbed, the types of pollutants used or stored at the project site, and proximity to water bodies.

Following compliance with NPDES requirements, BMPs and City requirements, construction of the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts would be **less than significant** with implementation of these existing regulations. Please also see Chapter 12, Hazards and Hazardous Materials, which addresses existing sources of soil and groundwater contamination and recommendations for that existing condition.

Operation

According to the Preliminary Storm Water Control Plan prepared by BKF Engineers, the proposed project would result in approximately 140,025 sf of impervious area, which would be divided into 20 drainage management areas with bioretention areas. This represents a 4 percent increase of impervious surface

area compared to existing conditions. See Figure 13-1: Preliminary Stormwater Management Plan. At the 375 Donohoe Street location, an additional area of approximately 5,000 square feet of impervious surface would be required for the water tank and supporting infrastructure. Under post-construction conditions, the total area of impervious surfaces from buildout of the project would not significantly change from existing conditions. No permeable pavements are proposed for the project. Flows from impervious pavement areas would be directed to pervious areas where feasible.

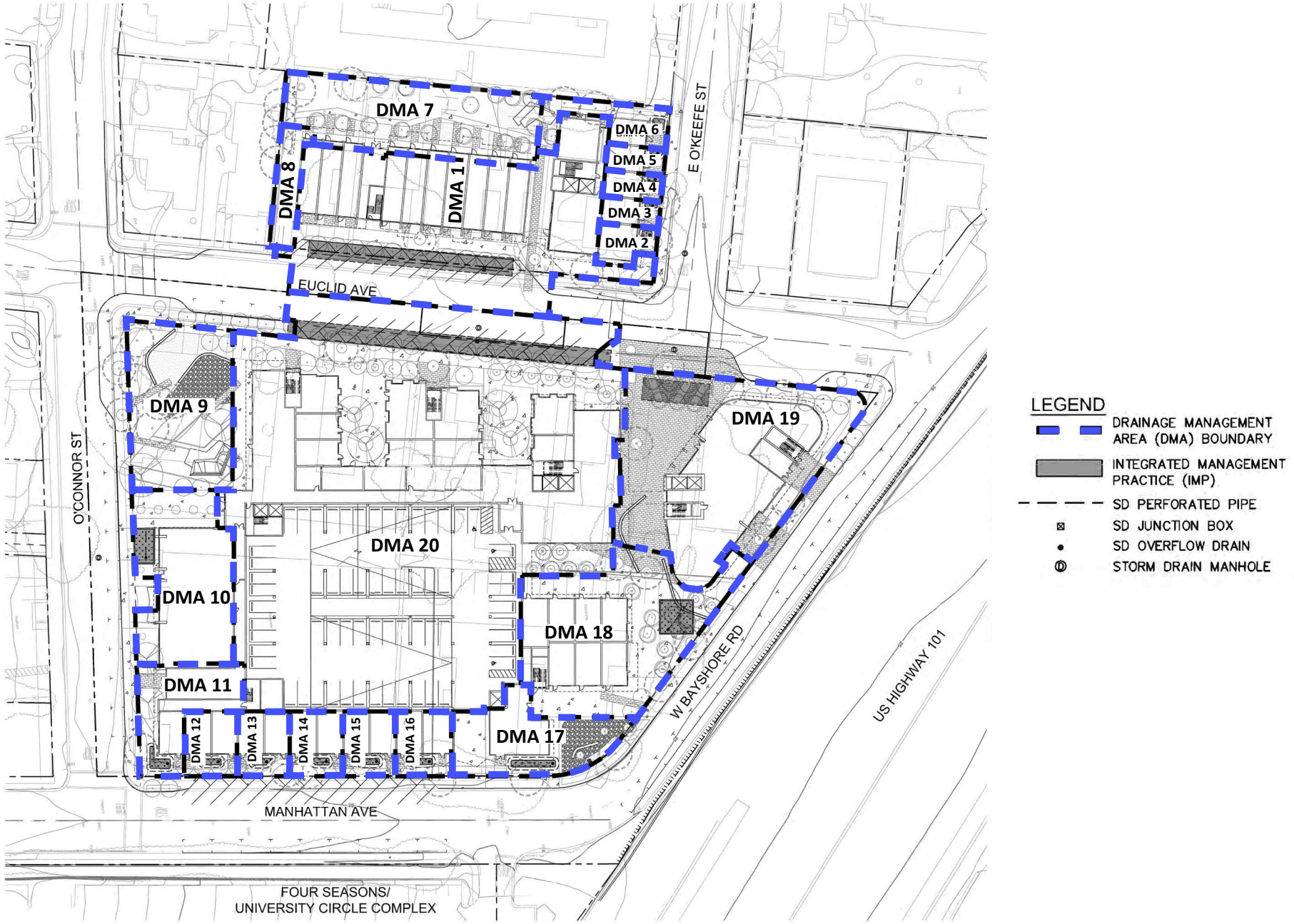
Compared to existing conditions and operations on the project site, operation of the project could contribute polluted runoff such as pesticides, herbicides, oils, grease, debris and other urban constituents to the stormwater drainage, which could flow into the City's stormwater system and ultimately flow into the San Francisco Bay. As discussed above, the project applicant would be required to prepare a SWPPP and incorporate BMPs for construction and post-construction conditions. Following compliance with NPDES requirements, BMPs and City requirements, operation of the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts would be **less than significant**.

Impact HYD-2: The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. This is a less than significant impact.

Construction and Operation

As discussed above, the project will redevelop an existing developed site. The project footprint would be limited to the existing developed footprint. According to the Preliminary Storm Water Management Plan prepared by BKF Engineers, the proposed project would result in 140,025 square feet of impervious area at the Euclid Avenue site, an increase of 6,180 square feet over existing conditions. The water tank site at 375 Donohoe Street would result in additional impervious area of approximately 5,000 square feet. This represents a 4 percent increase over existing conditions. Unlike existing conditions, however, the project is designed with 20 drainage management areas and a series of bio-retention areas. Bio-retention areas are basins that temporarily detain stormwater flows to improve surface water quality, control the rate of discharge and allow for some percolation back into the groundwater basin. With the incorporation of these drainage facilities into the design, the nominal increase in impervious surface area will be mitigated as some water will have an opportunity to percolate.

As previously discussed, the proposed project does not overlie existing water storage reservoirs or potable groundwater sources in the City. The groundwater located beneath the project site is not used for drinking water. Because the project does not propose any below-grade floors, it is not anticipated groundwater would be encountered during construction, which is located at a depth of 15 to 16 feet below ground surface. The project site is currently developed and does not provide significant groundwater recharge or would it interfere with groundwater recharge activities. For these reasons, the project will not substantially decrease groundwater supplies. Please see also Chapter 18, Utilities and Services Systems, for more information regarding water supply, existing allocations, and projected demand. Impacts would be **less than significant**.



Source: BKF, 2020

Figure 13-1: Preliminary Stormwater Management Plan

Woodland Park Euclid Improvements
Draft EIR

Kimley»Horn
Expect More. Experience Better.

Impact HYD-3: **The project could alter the existing drainage pattern of the site, but would not cause substantial erosion, cause flooding or exceed the capacity of the existing stormwater system. This is a less than significant impact**.

Construction and Operation

Please see Impact HYD-1 above regarding existing controls and regulations already in place to manage water quality from site construction activity and maintain water quality pursuant to NPDES requirements, BMPs and City requirements. Also, as identified in the analysis of Impact HYD-2, the site is developed and is largely covered by impervious surfaces. Post-project impervious surface would increase by 4 percent, plus an additional area of approximately 5,000 square feet at the water tank site at 375 Donohoe Street.

The project site currently developed with urban residential uses and drains to the existing stormwater system, to a storm drain located within Euclid Avenue. According to the City General Plan EIR, lands west of Highway 101 tend to drain to San Francisquito Creek, which ultimately flows into San Francisco Bay. As noted previously the 24-inch Euclid Avenue storm drain currently has constrained capacity, resulting in occasional localized ponding on local streets. Despite the 4 percent increase in impervious surface, the project's on-site bio-retention basins will help control both the rate and quantity of stormwater flows into the system that would more than off set that increase. As such, the project's runoff will not result in project-specific impacts to storm drain capacity or exacerbate the existing deficiency. The project would be required to pay standard storm drain impact fees.

While there may not be a significant impact from project runoff, construction of the project would provide an opportunity for the City to increase capacity within the Euclid Avenue storm drain, either with a replacement pipe or with a parallel pipe. The City and applicant are encouraged to work cooperatively on upgrading the facility while Euclid Avenue is under construction and closed to traffic.

With respect to post-project storm flows toward San Francisquito Creek, the project would not alter the course of the creek or add significant flows to the creek for the reasons stated above. The project would also be subject to local, State and federal laws and regulations, as well as applicable General Plan policies to ensure stormwater runoff not alter the course of San Francisquito Creek, resulting in substantial erosion or siltation on- or offsite or increasing the rate of flooding on- or offsite. As discussed above, the project applicant would be required to apply for coverage under the State NPDES General Permit for Construction Activities and prepare a SWPPP for the project site. The General Permit would also include implementation of BMPs that would meet or exceed measures required by the General Permit to control potential construction-related pollutants. Erosion-control BMPs would prevent erosion and trap sediment. Following compliance with NPDES requirements, BMPs and City requirements, construction of the project would not result in substantial erosion or siltation on- or offsite, increase the rate or amount of surface runoff resulting in flooding on- or offsite, or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. As the site is not in a flood zone, flood flows would not be impeded or redirected by the project. Impacts would therefore be **less than significant**.

Impact HYD-4: **The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. This is a less than significant impact**.

Construction and Operation

As discussed above, the project site does not overlie a groundwater basin and would not impede the sustainable management or use of groundwater. Thus, the project would not substantially decrease or interfere with groundwater recharge. The project would not conflict with a groundwater management plan.

The project is within the jurisdiction of the San Francisco RWQCB and would be required to demonstrate compliance with the San Francisco Bay Basin Plan. The Basin Plan includes water quality objectives and criteria to protect the San Francisco Bay. The RWQCB requires projects comply with waste discharge requirements, including obtaining permits for nonpoint waste discharge sources such as the urban runoff discharged by a City's stormwater drainage system. The project would comply with NPDES permit requirements by installing post-construction BMPs to physically treat and infiltrate runoff. Following compliance with the Basin Plan and the BMPs, the project would not conflict with a water quality control plan or sustainable groundwater management plan. Impacts would be **less than significant**.

13.5.4 Cumulative Impact Analysis

Impact HYD-5: **The project, in conjunction with other residential development projects as identified by the City would contribute to cumulatively considerable impacts on hydrology and water quality. This is a less than significant impact.**

The geographical area for cumulative water quality impacts is the City of East Palo Alto. Changes to the pattern, quantity and quality of stormwater runoff can potentially result in downstream impacts as these flows are combined with cumulative development, incrementally increasing runoff volumes from increases in impervious surfaces. This chapter identifies that the Euclid Avenue storm drain currently has capacity constraints caused by existing cumulative development. However, the project's contribution to cumulative flows would be mitigated by on site drainage controls.

Surface water quality also has the potential to be impacted, as urban pollutants enter the drainage system and combine with urban flows and constituents from cumulative development. Given that all present and reasonably foresee future projects larger than one acre would be required to prepare a SWPPP and conform with BMPs, cumulative development would be helping to improve water quality in the watershed basin over the long term. Similarly, present and reasonably foreseeable future projects that create or replace 10,000 sf or more of impervious area would be required to meet post-construction requirements so that receiving waters downstream are not adversely impacted.

For the project, the site plan has been designed to retain runoff on-site and drain into the City's stormwater system, resulting in controlled releases to the stormwater drainage system. Thus, while cumulative development may have drainage pattern differences, compliance with NPDES and local requirements for stormwater quantity and quality for each individual project would help to improve

overall water quality in the watershed basin. The proposed project, combined with these projects, would result in **less than significant** cumulative impacts to stormwater quantity and water quality.

13.6 References

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14 Land Use, Population, and Housing

14.1 Introduction

This section identifies potential effects related to land use, planning policy, population growth and housing that could result in direct or indirect environmental impacts with implementation of the project. Information used to prepare this section was derived primarily from the following resources:

- City of East Palo Alto, *Vista 2035 General Plan*, 2017
- City of East Palo Alto, *Vista 2035 General Plan EIR*, 2017
- City of East Palo Alto, *Westside Area Plan* (General Plan Chapter 11), 2017
- City of East Palo Alto, *Municipal Code*, as amended
- Woodland Park Communities, *Woodland Park Euclid Improvements Application*, 2019

This chapter combines land use, population and housing, because these issues are so closely related in the context of this particular project within the community.

14.2 Scoping Issues Addressed

During the Notice of Preparation (NOP) and public comment scoping period for the EIR, several comments were made with respect to land use and population in the context of the increased density and scale of the project. The EIR scoping meeting on May 18, 2020 also generated significant discussion about the mechanics of the project's relocation and affordable housing plans. These issues are addressed in this chapter in the context of potential physical environmental effects from increased population growth, consistency with environmental plans and policies and potential displacement of the existing residential population.

Issues that may be related to land use – such as project design, density and scale, are more directly related to community character and aesthetics, and are therefore addressed in Chapter 5, Aesthetics.

14.3 Environmental Setting

14.3.1 Westside Land Use Pattern

As described in the Westside Area Plan, the Westside has a different mix of uses than the rest of the City. As is shown in Table 14-1: Existing Land Use - Westside, land use on the Westside is predominantly residential, accounting for 81 percent of the land area. Of the residential land uses, multi-family housing accounts for the greatest land area by far at 48 percent of the total land area in the Westside. Comparatively, the vast majority of the City's multi-family uses are located on the Westside. There are several pockets of extremely dense development, upwards of 60 and 70 dwelling units per acre (du/a). These areas are along the southern part of East O'Keefe Street, and within the superblock bounded by Cooley Ave., Newell Rd., Woodland Ave., and West Bayshore Rd. In addition to residential uses, there are eight acres of office use and one acre of commercial use on the Westside. These uses are found in the University Circle area and include the Four Seasons Hotel and three 6-story office buildings. There are also a few retail uses spread throughout the Westside, including two convenience stores, a laundromat and a small number of restaurants.

Table 14-1: Existing Land Use - Westside

Land Use	Acres	% of Total
Residential – Mobile Home	1	1%
Residential – Single Family	14	13%
Residential – Duplex/Fourplex	21	19%
Residential – 5 or more Units	51	48%
Commercial	1	1%
Lodging	3	3%
Office	8	8%
Institutional or Public Facilities	1	1%
Light Industrial	1	1%
Baylands and Marshland	0	0%
Parks and Recreation Facilities	0	0%
Parking	0	0%
Vacant Land	6	6%
Total	**107**	**100%**

Source: Westside Area Plan, 2017

14.3.2 Land Use and Zoning at the Project Site

Under the City of East Palo Alto's existing General Plan Vision 2035, the subject properties have designations of High Density Residential (HDR, 22-43 du/ac) or Urban Residential (UR, 43-86 du/ac). High Density Residential allows a range of multi-family housing types ranging from townhomes to multi-family apartments at moderate to high densities. The purpose of this designation is to provide for higher density multi-family housing to meet the City's desire for a variety of housing types. This designation is located in areas with a diverse mix of uses within walking distance of homes, as well as in neighborhoods that already exhibit a high degree of diversity in the type and density of residential housing.

Urban Residential also allows multiple family housing, but at higher densities. This designation is intended to support the development of very high-density housing in limited locations in the City. Mid-rise and high-rise residential development is encouraged, ideally supported by high-frequency public transit and located within walking distance of neighborhood services and amenities.

The corresponding zoning categories for these uses are R-HD-3, R-HD-5 and R-UHD. R-HD-5 allows a maximum height of 60 feet, while R-UHD carries a maximum height of 7 stories and 75 feet.

The subject properties consist of 15 buildings with a total of 161 existing residential units. The majority of the existing buildings are approximately 50 years old, with a few older structures that are up to 100 years old. Existing structures range from one to four stories in height, have a simple architectural style typical of the 1960s, and are reaching the end of their useful construction life, meaning that the

buildings' materials and internal systems are failing at pace where they have become economically and practically burdensome to maintain. The water tank site at 375 Donohoe Street has no permanent improvements.

14.3.3 Adjacent Land Uses

Surrounding land uses are also primarily residential, with some local serving neighborhood commercial. The Four Seasons Hotel/University Circle, complex, a mix of office and hotel uses, is located one block to the east. Adjacent residential properties within East Palo Alto are also zoned R-HD-5 and R-UHD, and the shared city limit line with City of Menlo Park is immediately to the southwest of the project. Per the City of Menlo Park General Plan (2016), the adjacent land use in Menlo Park is also residential.

14.3.4 Existing Population and Demographics

With 6,075 residents, the Westside contains approximately one fifth of East Palo Alto's total population, even though it is less than one-tenth of the City's land area. This greater population density is due to the multi-family housing stock abundantly present throughout the neighborhood.

Overall, the Westside has a similar proportion of children as the rest of East Palo Alto, but noticeably fewer residents over 65, indicating a younger population. The ethnic composition of the Westside is essentially the same as the rest of the City, with Hispanic/Latino residents comprising the majority (68 percent). However, there are substantially more Spanish speakers who are not fluent in English residing in the Westside (48 percent) compared with 34 percent of the City as a whole. The only other noticeable difference is the greater rate of White residents (12 percent) compared to six-percent citywide. In fact, there are several block groups in the Westside where White residents are the majority ethnic group, something that occurs nowhere else in the City, underscoring the West side's ethnic diversity.

14.3.5 Existing Housing Mix

The Westside contains the majority of the City's multifamily housing stock (77 percent) and rent-controlled rental housing (95 percent), much of which is owned by one owner. Currently, there are 2,700 total residential units on the Westside. 2,185 of those units are subject to the Rent Stabilization Ordinance. 80 percent of the total units are rent-controlled.

Household size on the Westside is noticeably smaller than in the rest of the City (three members per household instead of the City average of four). The Westside has a higher proportion of one-person households than the rest of East Palo Alto; single person households account for 37 percent of the Westside, compared to 21 percent Citywide.

Compared to the rest of East Palo Alto and the surrounding area, the Westside has a much larger proportion of housing structures with five or more units. Three-quarters (74 percent) of the buildings on the Westside have five or more units compared to only 35 percent Citywide.

Over 80 percent of units are renter-occupied, significantly higher than the average in the rest of East Palo Alto as well as the surrounding cities. This illustrates how the Westside's multi-family rental housing serves a unique niche in the local market.

14.4 Applicable Regulations, Plans, and Standards

14.4.1 State

Not applicable.

14.4.2 Local

Vista 2035 East Palo Alto General Plan

The City of East Palo Alto's General Plan (Vista 2035), is the comprehensive planning document governing development within the City, and contains goals, policies, and programs describing the community's vision for economic viability, livable neighborhoods, and environmental protection.

The General Plan, as periodically amended, establishes policies for the orderly growth and development of the City, including its individual neighborhoods and districts. Among other purposes, the General Plan identifies policies necessary to protect and enhance those features and services which contribute to the quality of life of the community in which it serves.

The General Plan is a comprehensive policy plan which sets forth a series of written statements (goals, policies and objectives) defining the direction, character and composition of future land use development, and establishes guidelines (policies and actions) necessary to attain conformance with the plan. The General Plan Land Use Plan Map visually represents the physical relationship of all portions of the text, including development densities.

Relevant General Plan land use policies that have been adopted to reduce or avoid environmental impacts are identified below. Pursuant to CEQA, this discussion only identifies policies that have been adopted for the purpose of avoiding or mitigating environmental effects. Additional policies relevant to other specific environmental topics are identified in other chapters of this EIR.

Westside Area Plan

The Westside Area Plan provides a detailed vision, guiding principles, and goals and policies for the Westside area of East Palo Alto. The Plan focuses on tools to preserve a stock of affordable housing and improve the quality of life for residents. The Westside Area Plan guidelines seek to avoid displacement, provide affordable rental housing, maintain population diversity, improve housing quality, maintain diversity of housing types and unit sizes, and beautify the Westside. The Plan contains specific project application requirements for development projects within its boundaries, particularly projects that proposed to intensify land uses.

Rent Stabilization Ordinance

The City's Rent Stabilization Program has been a defining attribute of the City since its incorporation more than thirty-five years ago. The Rent Stabilization Program is currently funded by annual registration fees paid on a per-unit basis for each rent-stabilized unit in the City. These funds sustain a staffing level of two full-time employees to meet the programmatic and operational needs of the Rent Stabilization Program (Zoning Code Chapter 14.04).

Inclusionary Housing Ordinance

The City's Inclusionary Housing Ordinance was adopted in November 2019 as Chapter 18.37 of the Municipal Code. The purpose of this chapter is to enhance the public welfare by establishing policies which require the development of housing affordable to households of 35% area median income (AMI), very low, low, median and moderate incomes, help meet the City's regional share of housing needs, and implement the goals and objectives of the general plan and housing element. The Ordinance also seeks to provide and maintain affordable housing opportunities in the community for both ownership and rental housing.

Implementation of the Ordinance is also intended to provide the residential development community with alternatives to constructing inclusionary units on the same site as market rate residential development. As such, the Ordinance allows developers to meet the inclusionary requirements on site, or propose options or alternatives to meet the intent and objectives of the Ordinance. Alternative compliance methods must provide as many or more inclusionary units at the same or lower income levels, or will otherwise provide greater public benefit than would provision of the inclusionary units on site.

In short, the Ordinance requires that residential developments proposing five or more dwelling units provide 20 percent of the dwelling units as inclusionary units. If an alternative compliance option is pursued, the inclusionary requirement is 25 percent.

14.5 Environmental Impacts and Mitigation Measures

14.5.1 Significance Criteria

The following significance criteria for land use, planning, population and housing were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of potential impacts related to this project.

An impact of the project would be considered significant if it would meet one of the following criteria.

- Physically divide an established community.
- Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect.
- Induce substantial unplanned population growth either directly (through the construction of new homes or businesses), or indirectly (through the extension of roads or infrastructure).
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

14.5.2 Summary of No and/or Beneficial Impacts

Physically Divide an Established Community

The proposed project would not physically divide an established community because the property is currently developed with residential uses and structures, and would retain the same basic patterns of circulation and movement within the community. While the neighborhood would experience intensification with increased building heights and density, this specific area is wedged between the University Circle property (with hotel and office towers), and US 101. In this location the project would

not physically divide the community. This significance threshold is typically applied to projects such as new major roadways, rail lines, transit facilities or similar projects that result in a significant physical barrier that could segment established land uses and neighborhoods. Such impacts can affect access to parks, goods and services or other destinations in the community, divide residential neighborhoods, alter or lengthen vehicle trip patterns, or lead to similar effects that disrupt the existing cohesion of a community.

The environmental effects related to compatibility between proposed on-site land uses and adjacent land uses during both construction and operation are described in the respective impact sections of the following environmental resource chapters: Aesthetics, Air Quality, Noise and Transportation.

14.5.3 Impacts of the Proposed Project

Impact LU-1: The project would not substantially conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. This is a less than significant impact.

Construction and Operation

Existing Ordinances and Regulations

The proposed project would be required to comply with all applicable City of East Palo Alto ordinances and regulations affecting project construction and operation, including those addressing water quality, noise, grading, infrastructure, lighting and similar design and engineering requirements. For the purposes of this EIR, it is assumed that all final improvement plans and conditions of approval will reflect all standard ordinances and regulations that are in place at the time that permits are issued.

The project would create a Neighborhood Center Residential Overlay (NCO) designation to the General Plan. This General Plan Amendment and zoning overlay would allow for neighborhood-serving commercial and community uses on the ground floor, additional housing units beyond current densities, and increased building heights on High Density Residential (HDR) and Urban Residential (UR) land use designations that underly the NCO overlay designation. As proposed, allowed uses under the NCO overlay could include high-density, multi-family dwellings such as rental apartments, condominiums, single room occupancy (SRO) developments, neighborhood-serving commercial, and parks/plazas/open space, education, cultural, public assembly, and public uses. Other uses may be allowed if they are compatible and serve the needs of residents living in the higher-density residences. All uses, densities, building heights and resulting building form created the NCO overlay would be specific to the project site and reviewed against those specific development standards if adopted. However, all other standard ordinances and City and State performance standards remain applicable.

General Plan and Westside Area Plan Consistency

As identified in Section 14.1.1 above, and throughout the EIR chapters, the General Plan contains several policies designed to ensure that development within the City, over time, provides a certain level of environmental protection through the consistent application of those policies. This section focused on potential conflicts with land use policy, while the other EIR chapters address policies and regulations specific to the chapter topic. Relevant environmental policies are identified within the Regulatory

Setting of each chapter to assist City staff and public understand and review the project in the context of the City's broader guiding principles and vision.

Upon review of the General Plan land use and urban design policies that address environmental protection (as well as additional policies throughout the chapters of this EIR), there is no indication that the project, as mitigated, would be in direct conflict with these guiding policies such that significant environmental effects would occur. For example, the project:

- Does not conflict with any protected natural resource areas.
- Seeks to maintain an urban form and land use pattern that enhances the quality of life.
- Would expand the number, types and diversity of housing.
- Improve the City's image and physical appearance through design.

Chapter 11 of the General Plan, the Westside Area Plan, provides more specific goals and policies addressing urban design, transportation, parking, infrastructure and housing. Because the Woodland Park Euclid Improvements project represents the first major project proposed on the Westside subsequent to General Plan adoption, Table 14-2: West Side Area Plan Environmental and Housing Policy Consistency Analysis at the end of this chapter provides an analysis of project consistency with the Westside Area Plan. This analysis is focused on project consistency with those policies adopted for the purpose of mitigating an environmental effect.

Based on this analysis and the flexible structure of the plan, the project is compatible with the environmental objectives of the Westside Area Plan. As such, the project would not conflict with the General Plan and Westside Area Plan. Impacts are considered **less than significant**.

Impact LU-2: The project could induce substantial population growth in the Westside area due to the increased density of the project. This is a less than significant impact.

With 161 existing apartment units in the project and 605 proposed, the project will yield a net increase of 444 units. The additional units would consist of a mix of studio units (31 percent), one-bedroom units (39 percent) and two-bedroom units (30 percent). Regardless of the mix, the average household size on the Westside is 3.0 persons per household. Using existing average household size as a baseline, the 444 units could conservatively result in a net population increase of 1,332 people at full buildout, within a 3.9-acre area. This represents a 22 percent increase in the Westside population.

While this population increase is substantial, it is not unplanned. The Westside Area Plan includes many policies (see Policies 3.1 through 3.3) that allow for and anticipate intensification of the land use pattern over time, and the General Plan EIR assumed an additional 900 residential units on the west side of the City. The NCO overlay represents a proposal for project-specific development standards intended to implement those policies. Such intensification and increases in density are to be balanced with clearly defined community benefits on a project by project basis; however, the land use pattern does not project or estimate maximum population levels or a planned dwelling unit count over time.

Ultimately, population – people – are not direct environmental impacts. The effects of an increase in population are usually experienced as indirect, or secondary impacts, and they are felt in different ways. A concentrated increase in population can affect the capacity of physical infrastructure, increase

demands on public services and recreation facilities, systems, or increased vehicle miles travelled. The potential for such secondary effects are addressed in the respective chapters of this EIR that address those specific environmental topics.

In summary, an increase in population on the Westside is not unplanned and is anticipated by the Westside Area Plan, and therefore the effects of population growth are **less than significant**.

Impact LU-3: The project would temporarily relocate a substantial number of existing people and housing units. This is a less than significant impact.

The project as proposed would remove 161 existing apartment units (representing an estimated population of 483 people if all units were occupied). Some of those existing residents have already chosen to move out of some of these units. The project will construct a total of 605 new units on the site, resulting in a net increase of 444 apartments.

To clear the site and construct the project, existing residents would need to relocate. To address this issue and to remain consistent with the Westside Area Plan and other City regulations, the applicant, Woodland Park Communities, has committed to a relocation plan whereby existing residents would be provided the opportunity to relocate to a comparable apartment within Woodland Park with the same number of bedrooms. When construction is complete, participating residents will have a right of return to move into a new, rent-stabilized apartment at the same rent-stabilized rent (with City-determined rent adjustments). With the applicant paying for moving costs, existing residents essentially have the option to "trade" their existing aging apartment for a newly constructed unit.

While this program would temporarily relocate residents, which could cause disruption for some, the project would not displace residents or total housing units. Implementation of this relocation plan, proposed as part of the project, would therefore result in a **less than significant** impact with respect to displacement and replacement housing per CEQA standards.

14.5.4 Cumulative Impact Analysis

The scope of the analysis of cumulative impacts to land use and planning is the list of projects identified in Chapter 4, Introduction to Environmental Analysis, which represents past, previously approved and current proposals in East Palo Alto and Menlo Park.

Impact LU-4: The project will not substantially contribute to cumulatively considerable land use, planning, population or housing impacts. This is a less than significant impact.

Land use impacts would be cumulatively considerable if the proposed project, in conjunction with other past, present, reasonably foreseeable future projects, would physically divide an established community or result in inconsistency or conflicts with plans or policies adopted to protect the environment.

As identified above, the project is consistent with the land uses and development pattern as set forth in the General Plan and Westside Area Plan, and would not physically divide the community. Other past, present and future projects, including new development within University Circle, would not "combine" to create an impact with respect to "physical division". In terms of policy consistency, it is assumed that projects would be developed consistent with the General Plan and zoning code, would comply with

exiting standards and regulations, and therefore would not combine to cause a conflict with any existing environmental regulations that have not been addressed elsewhere in this EIR. For these reasons, cumulative land use and planning effects are considered less than cumulatively considerable.

In terms housing, the project would increase housing stock (including affordable housing) which is consistent with City policy and thus would have a beneficial cumulative effect on housing supply and affordability.

Increases in population over time, from the project as combined with other foreseeable development, could incrementally strain infrastructure and public services systems within the City. However, such effects are either addressed cumulatively through the assessment of impact fees and proportional share (in the case of infrastructure and public services for example), and can only be mitigated through the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis (CEQA Guidelines Section 15130 c).

14.6 References

City of East Palo Alto. 2016. *Vista 2035 East Palo Alto General Plan Draft EIR.*

City of East Palo Alto. 2017. *Vista 2035 East Palo Alto General Plan*.

Table 14-2: West Side Area Plan Environmental and Housing Policy Consistency Analysis

Principle or Policy	Consistency Analysis
Relevant Guiding Principles	
Guiding Principle 2: Provide affordable rental housing.	The project will increase affordable rental housing on the West Side by providing 444 additional housing subject to the City's affordable housing requirements.
Guiding Principle 3: Provide diverse parks, community facilities and shopping for all residents**.**	The project will provide publicly accessible park space and commercial uses where there currently are none.
Guiding Principle 5: Avoid displacement.	Displacement can be fully avoided due to the developer's ability to temporarily relocate residents within comparable nearby units and by offering a continued rent stabilization strategy and right of return.
Guiding Principle 6: Maintain a diversity of housing types and unit sizes.	The project will provide a more diverse mix of unit sizes and rental housing types compared to the existing housing stock on the site, which are primarily studios and one-bedroom units. Thirty percent of the new units would be 2-bedroom units. Only 2 percent of existing units are 2-bedroom.
Guiding Principle 8: Beautify the Westside.	The project provides opportunities to beautify these specific city blocks with architecture, street trees and green spaces.
Guiding Principle 10: Address infrastructure deficiencies.	The project will provide upgraded water infrastructure and pay fair share contributions for upgrades to other common facilities.
Guiding Principle 11: Improve housing quality.	The project will significantly improve the quality and quantity of housing through new construction.
Relevant Environmental and Housing Policies	
1.1 Preservation of housing.	The project will replace older housing with additional, new housing that accommodates households that are diverse in size, type and level of affordability.
1.2 No net loss in housing.	The project will increase housing and therefore will have no net loss.
1.3 Expansion of income-restricted affordable housing.	The project would expand the total quantity of income restricted affordable housing in the City. A mix of permanent income restricted housing and new rent-controlled housing is proposed to be consistent with policies that support both types.
1.4 Incentives for affordable housing.	The project would increase density, and also provides a combination of income restricted and deed restricted affordable housing above baseline levels identified by the Inclusionary Housing Element.
1.5 Affordability for current residents.	The project provides a mix affordable housing (rent stabilized and inclusionary) targeted to the income levels of existing residents.
1.6 Affordable Housing Location.	The affordable units within the project would be spread throughout the development.
1.7 Land swap to achieve no net loss.	This concept is not necessary due to the developer's ability to provide affordable housing within the project.

Principle or Policy	Consistency Analysis
1.8 Home ownership.	The project is 100% rental housing, replacing existing rental housing. Project does not provide ownership opportunities.
1.9 Diversity of housing types.	The architectural styles of the individual buildings within the project provide a range and diversity of housing types.
1.10 Diversity of unit sizes and types.	The project proposes a more balanced mix of unit sizes (comparable ratios of studio through 2-bedroom units) compared to existing units, that are almost entirely studios and 1 bedroom).
1.11 Mix of affordability levels.	The project provides more affordable housing than the minimum threshold, including the opportunity for relocation with no rent increases, while also providing market rate units. The affordability plan as proposed would provide both inclusionary housing per City ordinance and rent stabilized units.
1.12 High quality housing.	The new structures would provide new, high quality housing.
1.13 Funding for affordable housing.	This is a City goal, but the project could be considered a funding source for publicly supported affordable housing by providing affordable housing above minimum standards.
1.14 Maintain a viable Rent Control program.	The proposed relocation plan would maintain rent stabilized units within the project, thus helping to maintain the City's program.
3.1 Transformation over time.	The project provides a process and framework to allow increases in intensity consistent with this policy.
3.2 Development intensity.	The project provides an intensification of development but also provides neighborhood benefits in the form of affordable housing, infrastructure improvements, public open space and commercial amenities.
3.3 Prerequisites for increases in intensity.	The project has been analyzed by City staff and found to be consistent with the listed prerequisites of this policy because the project: provide income restricted housing; prevents displacement; preserves "right of return" for exiting residents; maintains the City's rent stabilization program; includes new parks and open space; improves streets and infrastructure; improves fiscal health; and beautifies the area with urban design and landscaping.
3.4 Development process for increased intensities.	The project is located on the north side of University Avenue. For this area, proposed increased in intensity over currently allowed intensities must prepare a master plan, development agreement or specific plan or similar document. The project includes a development agreement.
3.5 Application information for increased intensities.	Detailed information required per this policy has been submitted and reviewed for adequacy by City staff.
3.6 Replacement of affordable housing stock.	The project provides replacement affordable housing consistent with this policy, including replacement of RSO units and inclusionary housing subject to review and approval by the City.

Principle or Policy	Consistency Analysis
3.7 Affordable housing as community benefit.	The project provides additional and replacement affordable housing units as a community benefit consistent with this policy.
3.8 Replacement affordable housing for density bonus projects.	N/A. Project not requesting density bonus.
3.9 Income restricted affordable housing.	The project will exceed the 20 percent affordable housing minimum.
3.10 First right of return.	The project's relocation plan includes provisions for first right of return of existing residents.
3.11 Relocation plan.	The project has prepared a relocation for City approval consistent with this policy.
3.12 Relocation benefits.	The project's relocation plan includes option for existing residents consistent with this policy.
3.13 Land use vision for the Westside.	The project has a housing focus consistent with this policy. The Main Street and market concepts are envisioned south of University Avenue and are therefore not applicable. The project provides non-residential (retail) support services as part of the development plan.
3.14 Graduation of height.	The project design concentrates height and intensity toward US 101 (away from San Francisquito Creek) and transitions to lower building heights closer to adjacent residential neighborhoods. Heights graduate from 13 levels to 6 levels.
3.15 Neighborhood transitions and character.	The project is new/replacement multi-family development, but is not immediately adjacent to existing single family residential neighborhoods. Single family development is located nearby, however, in Menlo Park, one block to the northwest. The project provides transitions in height consistent with this policy.
4.2 Building quality and character.	The project would introduce high quality architecture, materials and pedestrian-oriented facades consistent with this policy.
4.3 Frequent pedestrian entries and windows.	The project is designed to provide street access to units and the commercial space.
4.4 Building articulation.	The structures as proposed provide architectural relief, articulation, balconies, awnings and other features to soften structural bulk and mass.
4.5 Engaging residential facades.	Preliminary designs of the project illustrate windows, stoops, porches/balconies and other features of ground floor residential consistent with this policy.
4.6 Elevated ground-floor residential.	Ground level units include stairs rising to elevated entrances.
4.7 Parking frontage.	Project parking is provided off-street within a central parking garage. There are no surface lots along local streets.
4.8 Building length.	Building lengths are visually broken into segments using voids and green spaces around the project perimeter.
4.9 Garage and driveway entries.	The central parking garage utilizes a single ingress/egress point consistent with this policy.

Principle or Policy	Consistency Analysis
4.10 Placement of utilities.	The project will provide an opportunity to underground utilities locally and screen project details such as trash containers to a central location.
4.11 Loading docks and service access.	Loading areas, service bays and trash collection are accessed by a service alley at the corner of West Bayshore Road and Manhattan Avenue and appropriately screened.
5.1 Greening and streetscape.	The landscape plan provides new landscaping and streetscaping details consistent with this policy.
5.2 Connections to parks and nature.	While the project does not have a direct connection to San Francisquito Creek, the project will provide nearly an acre of public open space area as part of the development plan.
5.3 Street furnishings.	Improvements and furnishings including a seating plaza, small dog park, and benches are planned along Euclid Avenue, within the public open space area, and within the entry plaza are consistent with this policy.
5.4 Street lighting.	The project provides an opportunity to provide new street lighting that is consistent with City standards and the project design.
5.5 Green streets.	The project landscape and drainage plans illustrate biofiltration areas, streetscaping, public park area and community greenspaces around the project perimeter consistent with this policy.
5.6 University Circle integration.	The applicant and the City have closely coordinated with University Circle and their expansion plans to integrate common facility needs and infrastructure related to water systems, circulation and roadway improvements.
6.3 Other new parks and open space.	This policy calls for new pocket parks, plazas and public spaces, including on O'Connor Street between Euclid Avenue and Manhattan Avenue. The project's proposed park and open space area is consistent with this policy.
6.4 Community Meeting Space.	The project provides community space in conjunction with neighborhood serving retail.
7.2 Safe pedestrian network.	The project proposes speed tables, visual roadway treatments and crosswalks along Euclid Avenue.
7.3 Safe bicycle network.	Currently direct access to bicycle facilities is provided adjacent to the project site including Class III bicycle routes along O'Connor Street and W Bayshore Road/Manhattan Avenue. Improvements proposed by the project would not affect existing Class III bicycle routes adjacent to the site. The site will also provide bicycle parking for residents, employees, and customers.
7.4 Transit service.	The project proposes a new bus stop at the corner of Euclid Avenue and O'Connor Street near the proposed park. Project is working with regional transit providers consistent with this policy.

Principle or Policy	Consistency Analysis
7.5 Complete Streets.	Complete streets improvements, such as bicycle signals and forward stop bars, should be incorporated into larger offsite roadway and intersection improvements to better accommodate pedestrians and bicyclists, but are not necessary on the local network immediately surrounding the project.
7.6 Sidewalks.	The project provides walkable, treelined sidewalks consistent with this policy.
7.7 Pedestrian crosswalks.	There are existing sidewalks on both sides of O'Connor Street, on both sides of Euclid Avenue between E O'Keefe Street and O'Connor Street, and both sides of W Bayshore Road/Manhattan Avenue between O'Connor Street and the Four Seasons Hotel Driveway. With the project, existing sidewalks will remain on both sides of the street and additional improvements will be constructed to improve pedestrian facilities adjacent to the project. These improvements include constructing high visibility crosswalks along Euclid Avenue at O'Connor Street and O'Keefe Street and bulb outs for the north leg of the intersection of Euclid Avenue and O'Connor Street.
7.11 University Avenue crossings.	Not directly related to the project.
7.12 University Avenue overpass.	Not directly related to the project.
8.1 Parking for new development.	The project includes an internal parking garage providing 1.1 parking spaces per apartment unit.
8.3 Off-street parking allocation.	The project would manage and allocate all parking spaces available to tenants.
8.4 Increase opportunities for residents parking.	Parking for project residents will be located within a centralized, secure parking structure.
8.5 Transportation Demand Management.	The project includes a Transportation Demand Management (TDM) plan to help reduce vehicle miles travelled associated with the project and to encourage/incentivize use of alternative transportation modes.
8.6 Mechanized Parking.	No mechanized parking is proposed.
9.1 Infrastructure upgrades.	The project is responsible for its fair share contribution to water and sewer system upgrades and/or studies to ensure that the project's responsibility is addressed as part of infrastructure planning and improvements on the Westside.
9.4 Public Safety Services.	Police and fire protection service providers have been engaged in the project planning process to ensure that service levels and response times are within acceptable standards.
9.5 Infrastructure for new development.	The project will contribute fees toward common infrastructure as well as provide a 1.5 MG water tank that will serve as a community benefit.
9.6 Waste and recycling.	The project includes centralized waste collection areas.

15 Noise and Vibration

15.1 Introduction

This section describes the potential noise effects that would be caused by implementation of the project. Information used to prepare this section came from the following resources:

- City of East Palo Alto, *General Plan,* August 2016.
- City of East Palo Alto, *Municipal Code*, as amended
- City of Menlo Park, General Plan, May 2013.
- City of Menlo Park, *Municipal Code*, as amended.

15.2 Scoping Issues Addressed

During the NOP public comment and scoping period for the proposed project, one comment was received regarding noise. The comment inquired about construction activities and related noise. Construction noise is addressed in this chapter.

15.3 Environmental Setting

15.3.1 General Information on Noise

Acoustics is the science of sound. Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a medium (e.g. air) to human (or animal) ear. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or hertz (Hz).

Noise is defined as loud, unexpected, or annoying sound. The fundamental acoustics model consists of a noise source, receptor, and the propagation path between the two. The loudness of the noise source, obstructions, or atmospheric factors affecting the propagation path, determine the perceived sound level and noise characteristics at the receptor. Acoustics deal primarily with the propagation and control of sound. A typical noise environment consists of ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this ambient noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to continuous noise from traffic on a major highway. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a large range of numbers. To avoid this, the decibel (dB) scale was devised. The dB scale uses the hearing threshold of 20 micropascals (µPa) as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The dB scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels correspond closely to human perception of relative loudness.

Table 15-1: Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	– 110 –	Rock Band
Jet fly-over at 1,000 feet		
	– 100 –	
Gas lawnmower at 3 feet		
	– 90 –	
Diesel truck at 50 feet at 50 miles per hour		Food blender at 3 feet
	– 80 –	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	**– 70 –**	Vacuum cleaner at 10 feet
Commercial area		Normal Speech at 3 feet
Heavy traffic at 300 feet	**– 60 –**	
		Large business office
Quiet urban daytime	**– 50 –**	Dishwasher in next room
	– 40 –	Theater, large conference room (background)
Quiet urban nighttime		
Quiet suburban nighttime		
	– 30 –	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	– 20 –	
		Broadcast/recording studio
	– 10 –	
Lowest threshold of human hearing	**– 0 –**	Lowest threshold of human hearing

Source: California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.

Noise Descriptors

The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The equivalent noise level (L_{eq}) represents the average[1] continuous sound pressure noise level over the measurement period, while the day-night noise level (DNL) and Community Equivalent Noise Level (CNEL) are measures of energy average during a 24-hour period, with dB weighted sound levels from 7:00 p.m. to 7:00 a.m. Most commonly, environmental sounds are described in terms of L_{eq} that has the same acoustical energy as the summation of all the time-varying events. Each is applicable to this analysis and defined Table 15-2: Definitions of Acoustical Terms.

Table 15-2: Definitions of Acoustical Terms

Term	Definitions
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.

[1] Note that this is not the arithmetic average. Leq is the constant noise level that would result in the same total sound energy being produced over a given period.

Term	Definitions
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in µPa (or 20 micronewtons per square meter), where 1 pascals is the pressure resulting from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is expressed in dB as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g. 20 µPa). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in dB as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
Maximum Noise Level (L_{max}) Minimum Noise Level (L_{min})	The maximum and minimum dBA during the measurement period.
Exceeded Noise Levels (L_{01}, L_{10}, L_{50}, L_{90})	The dBA values that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day-Night Noise Level (DNL)	A 24-hour average L_{eq} with a 10 dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity at nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA DNL.
Community Noise Equivalent Level (CNEL)	A 24-hour average L_{eq} with a 5 dBA weighting during the hours of 7:00 a.m. to 10:00 a.m. and a 10 dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends on its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Compiled from Caltrans, *Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol*, September 2013; Cyril M. Harris, *Handbook of Noise Control*, 1979; Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

The A-weighted decibel (dBA) sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be used. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends on the distance between the receptor and the noise source.

A-Weighted Decibels

The perceived loudness of sounds is dependent on many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by dBA values. There is a strong correlation between dBA and the way the human ear perceives sound. For this reason, the dBA has become the standard tool of environmental noise assessment. All noise levels reported in this document are in terms of dBA, but are expressed as dB, unless otherwise noted.

Addition of Decibels

The dB scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic dB is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound.[2] When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than one source under the same conditions.[3] Under the dB scale, three sources of equal loudness together would produce an increase of approximately 5 dBA.

Sound Propagation and Attenuation

Sound spreads (propagates uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics.[4] No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed.

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.[5] The way 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 newer residential units is generally 30 dBA or more.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from

[2] FHWA, *Noise Fundamentals,* 2017. Available at: https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm
[3] Ibid.
[4] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, Page 2-29, September 2013.
[5] James P. Cowan, Handbook of Environmental Acoustics, 1994.

interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA.[6] Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted[7]:

- Except in carefully controlled laboratory experiments, a 1-dBA change cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A minimum 5-dBA change is required before any noticeable change in community response would be expected. A 5-dBA increase is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Effects of Noise on People

Hearing Loss. While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise. The Occupational Safety and Health Administration has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over 8 hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Annoyance. Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The DNL as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the

[6] Compiled from James P. Cowan, *Handbook of Environmental Acoustics,* 1994 and Cyril M. Harris, Handbook of Noise Control, 1979.
[7] Compiled from California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013, and FHWA, *Noise Fundamentals,* 2017.

relative annoyance of these different sources. A noise level of about 55 dBA DNL is the threshold at which a substantial percentage of people begin to report annoyance[8].

15.3.2 General Information on Vibration

Sources of groundborne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g. factory machinery) or transient (e.g. explosions). Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude, including vibration decibels (VdB), peak particle velocity (PPV), and the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Table 15-3: Human Response to Different Levels of Groundborne Vibration displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment. For the purposes of this analysis, a PPV descriptor with units of inches per second (in/sec) is used to evaluate construction-generated vibration for building damage and human complaints.

Table 15-3: Human Response to Different Levels of Groundborne Vibration

Peak Particle Velocity (in/sec)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006-0.019	64-74	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	87	Vibrations readily perceptible	Recommended upper level to which ruins and ancient monuments should be subjected
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Virtually no risk of architectural damage to normal buildings

[8] Federal Interagency Committee on Noise, Federal Agency Review of Selected Airport Noise Analysis Issues, August 1992.

Peak Particle Velocity (in/sec)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.2	94	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings
0.4-0.6	98-104	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Architectural damage and possibly minor structural damage

Source: California Department of Transportation, Transportation and Construction Vibration Guidance Manual, 2013.

15.4 Environmental Setting

15.4.1 Project Setting

The project site is on East Palo Alto's west side, located northwest of University Avenue, adjacent to U.S. 101 and northwest of University Circle. The project is within the city limits of East Palo Alto, San Mateo County, CA.

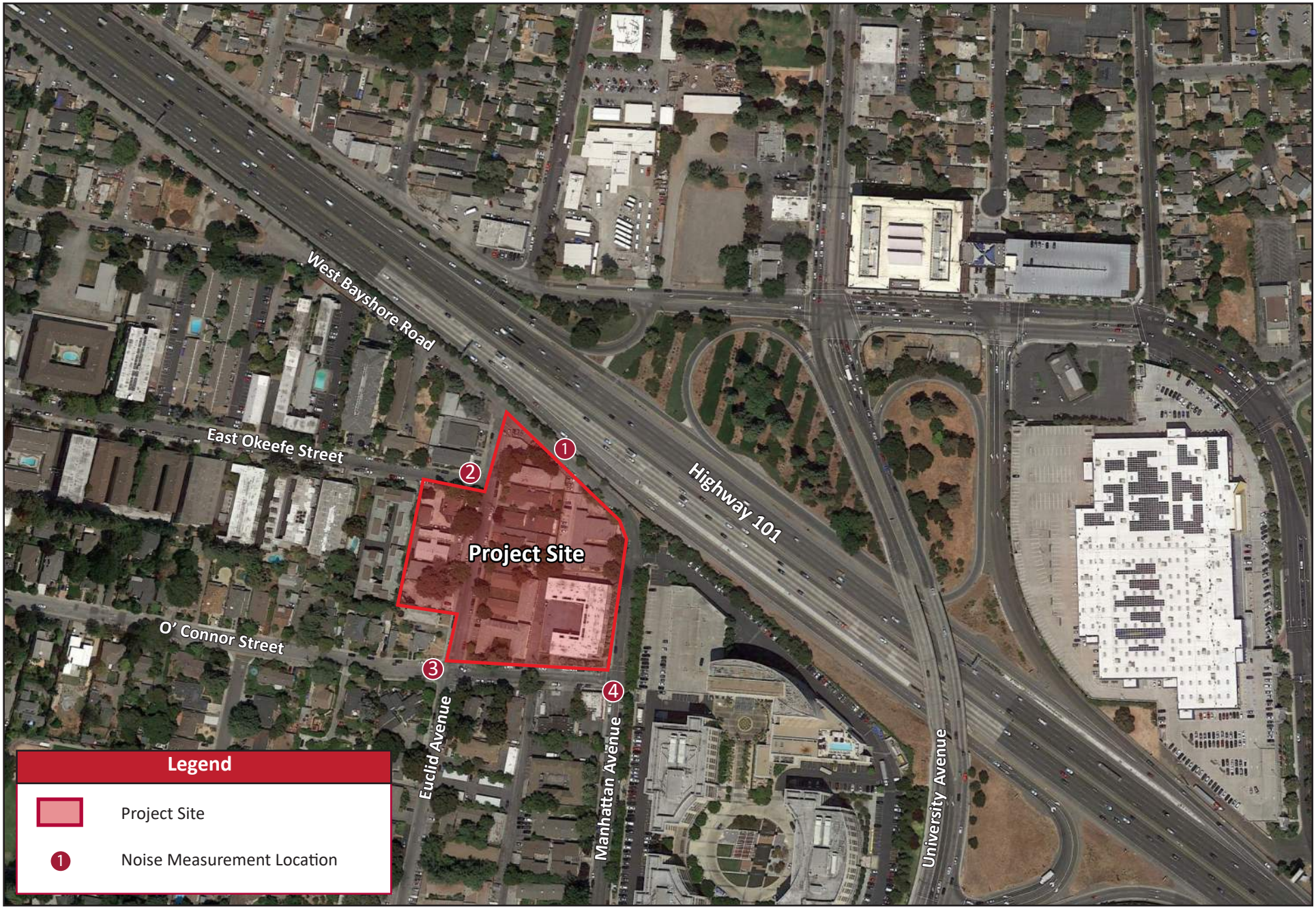
The subject properties consist of 15 apartment buildings with a total of 161 existing residential units. The majority of the existing buildings are approximately 50 years old, with a few older structures that are up to 100 years old. Existing structures range from 1 to 4 stories in height, have a simple architectural style, and are reaching the end of their useful construction life. The apartments buildings are part of the larger Woodland Park community, consisting mostly of multi-family residential uses in an established residential neighborhood. Surrounding land uses are also primarily residential, with some local serving neighborhood commercial. The Four Seasons/University Circle, complex, a mix of office and hotel uses, is located one block to the east.

15.4.2 Existing Noise Sources

The City of East Palo Alto is impacted by various noise sources. Mobile sources of noise, especially cars and trucks, are the most common and significant sources of noise in most communities. Other sources of noise are the various land uses (i.e., residential, commercial, institutional, and recreational and parks activities) throughout the City that generate stationary-source noise. US-101 adjacent to the project area is the dominant source of noise.

Noise Measurements

To determine ambient noise levels in the project area, three 10-minute noise measurements were taken using a Larson Davis SoundExpert LxT Type I integrating sound level meter between 10:40 a.m. and 11:50 a.m. on September 24, 2020; refer to Appendix G for existing noise measurement data and Figure 15-1: Noise Measurement Locations. Noise Measurement 2, 3, and 4 were taken to represent the ambient noise level in the existing residential neighborhood on O'Keefe Street, O'Connor Street and Manhattan Avenue surrounding the project site, while Noise Measurement 1 was taken to represent the ambient noise level north of the site, on West Bayshore Road. The primary noise sources during all three measurements was traffic on US-101 or other roadways, landscape equipment in the residential neighborhoods, and other commercial uses surrounding of the project site. Table 15-4: Noise Measurements, provides the ambient noise levels measured at these locations.



Source: Google Earth, 2020

Figure 15-1: Noise Measurement Locations

Woodland Park Euclid Improvements
Draft EIR

Not to scale

Kimley»Horn
Expect More. Experience Better.

Table 15-4: Noise Measurements

Site No.	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	Time
1	Bayshore Road	68.4	61.7	74.3	10:40 a.m.
2	O'Keefe Street and Euclid Avenue	61.8	60.1	62.7	11:00 a.m.
3	O'Connor Street and Euclid Avenue	64.2	50.4	85.5	11:25 a.m.
4	Manhattan Avenue	65.8	59.2	85.3	11:50 a.m.

Source: Noise Measurements taken by Kimley-Horn on September 24, 2020.

Existing Mobile Noise

Existing roadway noise levels were calculated for the roadway segments in the project vicinity. This task was accomplished using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and existing traffic volumes from the Project Traffic Analysis (Kimley-Horn 2020). The noise prediction model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (also referred to as energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data indicates that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along roadway segments in proximity to the project site are included in Table 15-5: Existing Traffic Noise.

Table 15-5: Existing Traffic Noise

Roadway Segment	ADT	dBA L_{dn}[1]
University Avenue		
Between Bayfront Expressway and O'Brien Drive	22,800	63.9
Between O'Brien Drive and Notre Dame Avenue	19,200	60.9
Between Notre Dame Avenue and Kavanaugh Drive	19,800	61.0
Between Kavanaugh Drive and Bay Road	20,100	61.1
Between Bay Road and Runnymede Street	17,900	60.6
Between Runnymede Street and Bell Street	15,300	59.9
Between Bell Street and Donohoe Street	17,500	60.5
Between Donohoe Street and NB US-101 Ramps	26,400	62.4
Between NB US-101 Ramps and SB US-101 Ramps	32,300	63.2
S/O Woodland Avenue	26,400	62.2
Between SB US-101 Ramps and Woodland Avenue	14,300	59.6
Willow Road		
N/O NB US-101 Ramps	40,100	67.6
Between NB US-101 Ramps and SB US-101 Ramps	33,200	66.8
Between SB US-101 Ramps and Bay Road	29,000	62.7
S/O Bay Road	8,300	57.3
Manhattan Avenue		
W/O Euclid Avenue	1,600	50.0
Between Euclid Avenue and O'Conner Street	2,100	51.2
Between O'Conner Street and Woodland Avenue	4,100	54.1
Donohoe Street		
W/O NB US-101 Ramp On-Ramp	12,200	58.9
Between NB US-101 On-Ramp and University Avenue	23,400	61.8
Between University Avenue and NB US-101 Off-Ramp	21,400	61.4
Between NB US-101 Off-Ramp and Bayshore Road	21,200	61.4
E. Bayshore Road		
E/O Donohoe Street	10,400	58.4
US-101		
S/O University Avenue	223,200	80.1

Roadway Segment	ADT	dBA L_{dn}[1]
Between University Avenue and Willow Road	219,800	80.1
N/O Willow Road	206,400	79.8

ADT = average daily trips; dBA = A-weighted decibels; Ldn = day-night noise level
[1] Traffic noise levels are at 100 feet from the roadway centerline.
Source: Based on traffic data provided by Kimley-Horn, 2020. Refer to **Appendix G** for traffic noise modeling assumptions and results.

The project site is primarily surrounded by mixed-use commercial and single-family residential neighborhoods. Residential uses exist south and west of the project site. The existing mobile noise in the project area are generated along US-101, which is north of the project site, O'Connor Street, which is South of the project site, and Manhattan Avenue which is east of the project site.

Existing Stationary Noise

The primary sources of stationary noise in the project vicinity are those associated with the operations of nearby residential uses to the south and west of the site and an existing hotel to east of the project site. The noise associated with these sources may represent a single-event noise occurrence, short-term noise, or long-term/continuous noise.

15.4.3 Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Residences, hospitals, schools, guest lodging, libraries, and churches are treated as the most sensitive to noise intrusion and therefore have more stringent noise exposure targets than do other uses, such as manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance.

As discussed in Chapter 6, Air Quality, the project site is located in an urban area at the edge of Highway 101 in the City of East Palo Alto. The surrounding land uses are predominantly residential, guest lodging to the east, some commercial to the south and southeast, and mostly commercial on the other side of the freeway. The northern boundary of the site is West Bayshore Road. Table 15-6: Sensitive Receptors lists the distances and locations of nearby sensitive receptors, which primarily includes residences.

Table 15-6: Sensitive Receptors

Receptor Description	Distance and Direction from the Project Site
Single Family Residential Uses	10 feet south
Multi-family Residential Uses	10 feet west
Multiple Family Residential Uses	25 feet east
Four Season Hotel	40 feet east
Single-Family Residential Uses	50 feet southeast
Single-Family Residential Uses	100 feet southeast
Multi-family Residential Uses	140 feet south
Single-Family Residential Uses	200 feet southeast
Single Family Residential Uses	300 feet southeast
Multi-family Residential Uses	190 feet southwest
German American International School	700 feet southwest
St. Mark's Missionary Baptist Church	800 feet east

15.5 Applicable Regulations, Plans, and Standards

15.5.1 State

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of "normally acceptable", "conditionally acceptable", "normally unacceptable", and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 CNEL and "conditionally acceptable" up to 70 CNEL. Multiple-family residential uses are "normally acceptable" up to 65 CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries, and churches are "normally acceptable" up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

Title 24 – Building Code

The State's noise insulation standards are codified in the California Code of Regulations, Title 24: Part 1, Building Standards Administrative Code, and Part 2, California Building Code. These noise standards are applied to new construction in California for interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new multi-family residential and non-residential buildings, the acceptable interior noise limit for new construction is 45 dBA CNEL.

15.5.2 Local

East Palo Alto

City of East Palo Alto General Plan

The City of East Palo Alto General Plan identifies goals, policies, and implementations in the Safety and Noise Element. The Safety and Noise Element provides a basis for comprehensive local programs to regulate environmental noise and protect citizens from excessive exposure. Table 15-7: Interior and Exterior Noise Standards highlights land-use categories and the outdoor noise compatibility guidelines.

Table 15-7: Interior and Exterior Noise Standards

Land Use Category	Noise Standards	
	Interior[2,3]	Exterior
Residential – Single family, multifamily, duplex, mobile home	CNEL 45 dBA	CNEL 65 dB[4]
Residential – Transient lodging, hotels, motels, nursing home, hospitals	CNEL 45 dBA	CNEL 65 dB[4]
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting halls, etc.	Leq(12) 45 dBA	-
Schools	Leq(12) 45 dBA	Leq(12) 67 dB[5]
General offices, reception, clerical, etc.	Leq(12) 50 dBA	--

Land Use Category	Noise Standards	
	Interior[2,3]	Exterior
Bank lobby, retail store, restaurant, typing pool, etc.	Leq(12) 55 dBA	-
Manufacturing, kitchen, warehousing, etc	Leq(12) 65 dBA	-
Parks, playgrounds	-	CNEL 65 dB[5]
Golf courses, outdoor spectator sports, amusement parks	-	CNEL 70 dB[5]

Source: City of East Palo General Plan, 2016
Notes:
1. CNEL: Community Noise Equivalent Level; Leq (12): The A-weighted equivalent sound level averaged over a 12-hour period (usually the hours of operation).
2. Noise standard with windows closed. Mechanical ventilation shall be provided per UBC requirements to provide a habitable environment.
3. Indoor environment excluding bathrooms, toilets, closets, and corridors.
4. Outdoor environment limited to rear yard of single family homes, multifamily patios, and balconies (with a depth of 6' or more) and common recreation areas.
5. Outdoor environment limited to playground areas, picnic areas and other areas of frequent human use

Relevant General Plan Policies that directly address reducing and avoiding noise impacts include the following:

Safety and Noise

Goal SN 6: Minimize the effect of noise through proper land use planning.

- Policy 6.1: Noise standards. Use the Interior and Exterior Noise Standards for transportation noise sources. Use the City's Noise Ordinance for evaluating non-transportation noise sources when making planning and development decisions. Require that applicants demonstrate that the noise standards will be met prior to project approval.
- Policy 6.2: Compatibility standards. Utilize noise/land use compatibility standards and the Noise Ordinance as guides for future development decisions.
- Policy 6.3: Noise control. Provide noise control measures, such as berms, walls, and sound attenuating construction in areas of new construction or rehabilitation.
- Policy 6.4: Airport-adjacent land uses. Maintain the non-residential designation for land near the airport in order to prevent new noise-sensitive residential uses from being constructed in areas with excessive aircraft noise.

Goal SN 7: Minimize transportation- and non-transportation-related noise impacts, especially on noise-sensitive land uses.

- Policy 7.1: Noise ordinance. Continually enforce and periodically review the City's Noise Ordinance for adequacy (including requiring construction activity to comply with established work schedule limits). Amend as needed to address community needs and development patterns.
- Policy 7.2: CEQA acoustical analysis. Require an acoustical analysis to evaluate mitigation measures for noise generating projects that are likely to cause the following criteria to be exceeded or to cause a significant adverse community response:
    - Cause the Ldn/CNEL at noise-sensitive uses to increase by 3 dBA or more and exceed the "normally acceptable" level.

- Cause the Ldn/CNEL at noise- sensitive uses to increase 5 dBA or more and remain "normally acceptable."

- Policy 7.7: Site design review. Utilize site design review to identify potential noise impacts on new development, especially from nearby transportation sources. Encourage the use of noise barriers (walls, berms or landscaping), setbacks, and/or other buffers.

City of East Palo Alto Municipal Code

Consistent with state law, the City of East Palo Alto has adopted noise policies in its Noise Element, as well as in its Municipal Code. Chapter 8.52 (Noise Control) of the East Palo Alto Municipal Code seeks to protect the citizens of the City from unnecessary, excessive, and annoying noise; to maintain quiet in areas where noise levels are low; and to implement programs to reduce unacceptable noise. The regulations limit the amount of noise that may be created as measured at the exterior of any dwelling unit, school, hospital, church, or public library.[9] Table 15-8: Exterior Noise Level Standards for Single – or Multi-Family Residences, Schools, Hospitals, Churches, and Public Libraries provides the Municipal Code's exterior noise standards. In addition, Chapter 8.52 limits the creation of noise that results in excessive noise levels within any dwelling unit. Table 15-9: Interior Noise Level Standard – Dwelling Unit provides the standards for interior noise in dwelling units. Exemptions to the noise standards include special events and construction activities not between 8:00 p.m. and 7:00 a.m. Section 15.04.125 of the Municipal Code limits construction activity to the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. Saturdays. No construction activity is allowed on Sundays or national holidays.

Table 15-8: Exterior Noise Level Standards for Single – or Multi-Family Residences, Schools, Hospitals, Churches, and Public Libraries

Cumulative Number of Minutes in Any 1-Hour Time Period	Noise Level Standards, dBA	
	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
30	55	50
15	50	55
5	65	60
1	70	60
0	75	70

Source: City of East Palo Alto Municipal Code, 2009

Notes:

A. In the event the measured background noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted in 5 dBA increments so as to encompass the background noise level.

B. Each of the noise level standards specified above shall be reduced by 5 dBA for simple tone noises, consisting primarily of speech or music, or for recurring or intermittent impulsive noises.

C. If the intruding noise source is continuous and cannot reasonably be stopped for a period of time whereby the background noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the noise level standards in this table.

Table 15-9: Interior Noise Level Standard – Dwelling Unit

Cumulative Number of Minutes in Any 1-Hour Time Period	Noise Level Standards, dBA	
	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
5	45	40
1	50	45
0	55	50

[9] City of East Palo Alto, 2009, *East Palo Alto Municipal Code*, Chapter 8.52, Noise Control in the City's Municipal Code.

Source: City of East Palo Alto Municipal Code, 2009
Notes:
A. In the event the measured background noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted in 5 dBA increments so as to encompass the background noise level.
B. Each of the noise level standards specified above shall be reduced by 5 dBA for simple tone noises, consisting primarily of speech or music, or for recurring or intermittent impulsive noises.
C. If the intruding noise source is continuous and cannot reasonably be stopped for a period of time whereby the background noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the noise level standards in this table.

Menlo Park

City of Menlo Park General Plan

Consistent with state law, the City of Menlo Park has adopted noise policies in its Open Space/Conservation, Noise and Safety Elements, as well as in its Municipal Code.

Project relevant general plan goals and policies for noise are addressed in this section. Where inconsistencies exist, if any, they are addressed in the respective impact analysis below Table 15-10: Land-Use Compatibility Guidelines for Community Noise in Menlo Park highlights land-use categories and the outdoor noise compatibility guidelines.

Table 15-10: Land-Use Compatibility Guidelines for Community Noise in Menlo Park

Land Use Category	Exterior Noise Exposure (DNL in dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density (Single Family, Duplex, Mobile Homes)	50 – 60	55 – 70	70-75	75 – 85
Residential – Multiple Family	50– 65	60– 70	70– 75	75– 85
Transient Lodging (Hotels and Motels)	50–65	60–70	70–80	75-–85
Schools, Libraries, Museums, Meeting Halls, Churches	50 – 70	60 – 70	70 –75	80 – 85
Auditoriums, Concert Halls, Amphitheaters	-	50 – 70	-	65 – 85
Sports Arena, Outdoor Spectator Sports	-	50 – 75	-	70– 85
Playgrounds, Neighborhood Parks	50 – 70	-	67.5 – 75	72.5 – 85
Gold Courses, Riding Stables, Water Recreation, Cemeteries	50 – 75	-	70 – 80	80 – 85
Office Buildings, Business Commercial, and Professional Offices	50– 70	67.5– 77.5	75– 85	-
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	75 – 85	-

Source: City of Menlo Park, Menlo Park General Plan Open Space, Conservation, Noise and Safety Elements, adopted May 21, 2013.
Notes:
Normally Acceptable - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise reduction features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable – New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insultation features included in the design.
Clearly Unacceptable – New construction or development should not be undertaken.

Relevant General Plan Policies that directly address reducing and avoiding noise impacts include the following:

Goal N1: Achieve acceptable noise levels.

- Policy N1.1 Compliance with Noise Standards: Consider the compatibility of proposed land uses with the noise environment when preparing or revising community and/or specific plans. Require new projects to comply with the noise standards of local, regional, and building code regulations, including but not limited to the City's Municipal Code, Title 24 of the California Code of Regulations, and subdivision and zoning codes.
- Policy N1.2 Land Use Compatibility Noise Standards: Protect people in new development from excessive noise by applying the City's Land Use Compatibility Noise Standards for New Development (see chart on the next page) to the siting and required mitigation for new uses in existing noise environments.
- Policy N1.3 Exterior and Interior Noise Standards for Residential Use Areas: Strive to achieve acceptable interior noise levels and exterior noise levels for backyards and/or common usable outdoor areas in new residential development, and reduce outdoor noise levels in existing residential areas where economically and aesthetically feasible.
- Policy N1.4 Noise Sensitive Uses: Protect existing residential neighborhoods and noise sensitive uses from unacceptable noise levels and vibration impacts. Noise sensitive uses include, but are not limited to, hospitals, schools, religious facilities, convalescent homes and businesses with highly sensitive equipment. Discourage the siting of noise-sensitive uses in areas in excess of 65 dBA CNEL without appropriate mitigation and locate noise sensitive uses away from noise sources unless mitigation measures are included in development plans.
- Policy N1.5 Planning and Design of New Development to Reduce Noise Impacts: Design residential developments to minimize the transportation-related noise impacts to adjacent residential areas and encourage new development to be site planned and architecturally designed to minimize noise impacts on noise sensitive spaces. Proper site planning can be effective in reducing noise impacts.
- Policy N1.6 Noise Reduction Measures: Encourage the use of construction methods, state-of-the-art noise abating materials and technology and creative site design including, but not limited to, open space, earthen berms, parking, accessory buildings, and landscaping to buffer new and existing development from noise and to reduce potential conflicts between ambient noise levels and noise-sensitive land uses. Use sound walls only when other methods are not practical or when recommended by an acoustical expert.
- Policy N1.8 Potential Annoying or Harmful Noise: Preclude the generation of annoying or harmful noise on stationary noise sources, such as construction and property maintenance activity and mechanical equipment.
- Policy N1.10 Nuisance Noise: Minimize impacts from noise levels that exceed community sound levels through enforcement of the City's Noise Ordinance. Control unnecessary, excessive and annoying noises within the City where not preempted by Federal and State control through implementation and updating of the Noise Ordinance

City of Menlo Park Municipal Code

Chapter 8.06, Noise, contains the primary set of statutes through which Menlo Park regulates noise. For all noise measurements pursuant to the noise ordinance, the municipal code specifies standard procedures for conducting noise measurements, with specifications for sound-meter settings and placement. Section 8.06.030 sets maximum noise levels at any residential receiving property to a maximum of 60 dBA during the daytime hours between 7:00 a.m. to 10:00 p.m., and to 50 dBA during the nighttime hours between 10:00 p.m. and 7:00 a.m. The ordinance applies an additional 5 dBA penalty to sounds of a particularly annoying nature, such as tones, screeches, whines, and pulses, among others. The ordinance also includes a qualitative standard which prohibits noises which can be reasonably determined to be disturbing to an entire neighborhood or any considerable number of residents. Additionally, Section 8.06.040 limits construction activities between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday, and between the hours of 9:00 a.m. and 5:00 p.m. on Saturdays, Sundays or holidays.

15.6 Environmental Impacts and Mitigation Measures

15.6.1 Significance Criteria

CEQA does not define what construction or operational noise level increase would be considered substantial. Typically, a noise increase of 3 dBA Ldn or greater at a residential receptor would be considered significant when existing ambient noise levels are between 60 and 65 dBA Ldn (FICON, 1992). A noise increase of 5 dBA Ldn or greater at the receptor would be considered a significant impact when existing ambient noise levels are less than 60 dBA Ldn (FICON, 1992). Noise due to construction activities is usually considered to be less than significant in terms of CEQA compliance if the construction activity is temporary and the use of heavy construction equipment and noisy activities are limited to daytime hours.

According to the adopted Appendix G of the *State CEQA Guidelines*, impacts related to noise from a proposed project would be significant if the project would:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generate excessive groundborne vibration or groundborne noise levels; and
- For a project located within the vicinity of a private airstrip or 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.

15.6.2 Study Methodology

Construction

Construction noise estimates are based on typical noise levels published by the Federal Transit Administration (FTA) and FHWA. Construction noise is assessed in dBA Leq. This unit is appropriate because Leq can be used to describe noise level from operation of each piece of equipment separately, and levels can be combined to represent the noise level from all equipment operating during a given period.

Reference noise levels are used to estimate noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Construction noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual temporary construction noise.

Operations

This analysis of the existing and future noise environments is based on noise prediction modeling and empirical observations. Reference noise level data are used to estimate the Project operational noise impacts from stationary sources. Noise levels were collected from published sources from similar types of activities and used to estimate noise levels expected with the Project's stationary sources. The reference noise levels are used to represent a worst-case noise environment as noise level from stationary sources can vary throughout the day. The traffic noise levels in the Project vicinity were calculated using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108).

Vibration

Groundborne vibration levels associated with construction-related activities for the Project were evaluated utilizing typical groundborne vibration levels associated with construction equipment, obtained from FTA published data for construction equipment. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, considering the distance from construction activities to nearby land uses and typically applied criteria for structural damage and human annoyance.

15.6.3 Summary of No and/or Beneficial Impacts

Proximity to a Public or Private Airport

The Palo Alto Airport is located approximately 1.60 miles east of the project site and there are no private airstrips in the project area. The project site lies outside the 55 dBA CNEL noise contour specified in the East Palo Alto 2035 General Plan. Additionally, the project would not exacerbate noise levels from the airport and would be no impact.

15.6.4 Impacts of the Proposed Project

Impact N-1: The project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This is a less than significant impact with mitigation.

Construction

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g. land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. During construction, exterior noise levels could affect the residential neighborhoods surrounding the construction site. Project construction would occur approximately 25 feet from existing single-family

residences to the south. However, construction activities would occur throughout the project site and would not be concentrated at a single point near sensitive receptors. Noise levels typically attenuate (or drop off) at a rate of 6 dB per doubling of distance from point sources, such as industrial machinery. During construction, exterior noise levels could affect the residential neighborhoods near the construction site.

Construction activities associated with development of the Project would include demolition, site preparation, grading, paving, building construction, and architectural coating. Such activities would require graders, scrapers, and tractors during site preparation; graders, dozers, and tractors during grading; cranes, forklifts, generators, tractors, and welders during building construction; pavers, rollers, mixers, tractors, and paving equipment during paving; and air compressors during architectural coating. Grading and excavation phases of Project construction tend to be the shortest in duration and create the highest construction noise levels due to the operation of heavy equipment required to complete these activities. It should be noted that only a limited amount of equipment can operate near a given location at a particular time. Equipment typically used during this stage includes heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, and scrapers. Operating cycles for these types of construction equipment may involve one or two minutes of full-power operation followed by three to four minutes at lower power settings. Other primary sources of noise would be shorter-duration incidents, such as dropping large pieces of equipment or the hydraulic movement of machinery lifts, which would last less than one minute. According to the applicant, no pile-driving would be required during construction.

Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical noise levels associated with individual construction equipment are listed in Table 15-11: Typical Construction Equipment Noise Levels.

Table 15-11: Typical Construction Equipment Noise Levels

Equipment	Typical Level (dBA) 25 Feet from the Source[1]	Typical Level (dBA) 50 Feet from the Source[1]	Typical Level (dBA) 100 Feet from the Source[1]
Air Compressor	86	80	74
Backhoe	86	80	74
Compactor	88	82	76
Concrete Pump	88	82	76
Concrete Vibrator	82	76	70
Crane, Derrick	94	88	82
Dozer	91	85	79
Generator	88	82	76
Grader	91	85	79
Impact Wrench	91	85	79
Jack Hammer	94	88	82
Loader	86	80	74
Paver	91	85	79
Pneumatic Tool	91	85	79
Pump	83	77	71
Roller	91	85	79
Street Sweeper	82	76	70
Saw	91	85	79
Scraper	88	82	76
Shovel	90	84	78

Equipment	Typical Level (dBA) 25 Feet from the Source[1]	Typical Level (dBA) 50 Feet from the Source[1]	Typical Level (dBA) 100 Feet from the Source[1]
Truck	86	80	74

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.
Notes:
Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1+20Log(d_1/d_2)$Where: dBA_2 = estimated noise level at receptor; dBA_1 = reference noise level; d_1 = reference distance; d_2 = receptor location distance

Sensitive receptors near the project area include: residences adjoining the project site to the south. Noise impacts for mobile construction equipment are typically assessed as emanating from the center of the equipment activity or construction site. For the proposed project, this center point would be conservatively approximately 50 feet from the nearest sensitive receptor structure. These sensitive uses may be exposed to elevated noise levels during project construction. These assumptions represent the worst-case noise scenario because construction activities would typically be spread out throughout the project site, and thus some equipment would be further away from the affected receptors. In addition, construction noise levels are not constant, and in fact, construction activities and associated noise levels would fluctuate and generally be brief and sporadic, depending on the type, intensity, and location of construction activities.

The noise levels calculated in Table 15-12: Project Construction Noise Levels, show estimated exterior construction noise for the project without accounting for attenuation from existing physical barriers. All construction equipment was assumed to operate simultaneously at a construction area nearest to the sensitive receptor. These assumptions represent a worst-case noise scenario as construction activities would routinely be spread throughout the construction site further away from noise sensitive receptors.

Table 15-12: Project Construction Noise Levels

Construction Phase	Modeled Exterior Construction Level at Property Line of Nearest Sensitive Receptor	
	dBA L_{eq}	dBA L_{max}
Demolition	84.1	81.7
Site Preparation	87.6	84.0
Grading	88.2	85.0
Paving	84.7	89.5
Construction	87.4	85.0
Painting/Architectural Coating	N/A	80.0

Source: Refer to **Appendix G** for construction noise modeling assumptions and results.

As shown in Table 15-12: Project Construction Noise Levels, unobstructed construction noise levels could reach 88.2 dBA at the property line of the nearest sensitive receptor. Construction equipment would operate throughout the Project site during each phase and the associated noise levels would not occur at a fixed location for extended periods of time. Construction noise would be acoustically dispersed throughout the Project site and will be masked by freeway noise and roadway noise.

The City of East Palo Alto does not have construction noise standards. The FTA has established a daytime threshold of 90 dBA L_{eq} (1 hour) for residential uses 100 dBA L_{eq} (1 hour) for non-residential uses to evaluate construction noise impacts.[10] As shown in Table 15-1 noise levels at the sensitive receptor are below 90 dBA at 50 feet. The highest anticipated construction noise level of 88.2 dBA is expected to

[10] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, Table 7-2, Page 179, September 2018.

occur during the grading phase. Additionally, the majority of construction would occur throughout the project site and would not be concentrated at a single point near sensitive receptors. The project construction would comply with Section 8.52.350 of the East Palo Alto Municipal Code which limits construction hours to between the hours of 7:00 a.m. and 8:00 p.m. Monday through Sunday and Section 8.06.040 of the City of Menlo Park Municipal Code which limits construction activities between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday, and between the hours of 9:00 a.m. and 5:00 p.m. on Saturdays, Sundays or holidays. MM N-1.1 would ensure that all construction equipment is equipped with properly operating and maintained mufflers and other state required noise attenuation devices, helping to reduce noise at the source. NOI-1 is required to ensure that construction noise levels do not exceed the City's standards and that time-of-day restrictions are adhered to. With Implementation of MM N-1.1, construction noise impacts to nearby receptors would be **less than significant.**

Construction Traffic Noise

Construction noise may be generated by large trucks moving materials to and from the project site. Large trucks would be necessary to deliver building materials as well as remove dump materials. Excavation and cut and fill would be required. Soil hauling would not be required as the earthwork would balance on-site. Based on the California Emissions Estimator Model (CalEEMod) default assumptions for this project, as analyzed in Section 6 Air Quality, the project would generate the highest number of daily trips during the building construction phase. The model estimates that the project would generate up to 554 worker trips and 111 vendor trips per day. Because of the logarithmic nature of noise levels, a doubling of the traffic volume (assuming that the speed and vehicle mix do not also change) would result in a noise level increase of 3 dBA. Manhattan Avenue between O'Connor Street to Woodland Avenue has an average daily trip volume of 4,100 vehicles (Table 15-5: Existing Traffic Noise). Therefore, 665 project construction trips (554 worker trips plus 111 vendor trips) would not double the existing traffic volume per day. Construction related traffic noise would not be noticeable and would have a **less than significant impact**.

California establishes noise limits for vehicles licensed to operate on public roads using a pass-by test procedure. Pass-by noise refers to the noise level produced by an individual vehicle as it travels past a fixed location. The pass-by procedure measures the total noise emissions of a moving vehicle with a microphone. When the vehicle reaches the microphone, the vehicle is at full throttle acceleration at an engine speed calculated for its displacement.

For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dB. The State pass-by standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dB at 15 meters from the centerline. According to the FHWA, dump trucks typically generate noise levels of 77 dBA and flatbed trucks typically generate noise levels of 74 dBA, at a distance of 50 feet from the truck (FHWA, Roadway Construction Noise Model, 2006).

Operations

The current site operations include noise generating activities associated with residential uses. Implementation of the project would create new sources of noise in the project vicinity. The major noise sources associated with the project that would potentially impact existing and future nearby residences include the following. These noise sources are discussed in further detail below.

- Residential Areas;
- Mechanical equipment (i.e., trash compactors, air conditioners, etc.);
- Activities at the loading areas (i.e., maneuvering and idling trucks, loading/unloading, and equipment noise);
- Additional parking area activity (i.e., car door slamming, car radios, engine start-up, and car pass-by); and
- Landscape maintenance activities; and
- Off-site traffic noise.

As discussed above, the closest sensitive receptors are single-family and multi-family residences located 10 feet from the project site. The City of East Palo Alto stationary source exterior noise standard for residential areas is 55 dBA L_{50} between 7:00 a.m. and 10:00 p.m. and 50 dBA L_{50} between 10:00 p.m. and 7:00 a.m. (Table 15-9: Exterior Noise Level Standards for Single – or Multi-Family Residences, Schools, Hospitals, Churches, and Public Libraries). The land use compatibility standard for residential areas is also CNEL 65 dBA CNEL for normally acceptable conditions.

Stationary Noise Sources

Implementation of the project would create new or intensified sources of noise in the project vicinity from residential sources, mechanical equipment, truck loading areas, parking lot noise, and landscape maintenance.

Residential Areas

Noise that is typical of lodging areas includes group conversations, pet noise, vehicle noise (see discussion below) and general maintenance activities. Noise from residential stationary sources would primarily occur during the "daytime" activity hours of 7:00 a.m. to 10:00 p.m.

The project includes common areas where groups of people could gather, including the publicly accessible park area at the corner of Euclid Avenue and O'Connor Street. Crowd noise is dependent on several factors including vocal effort, impulsiveness, and the random orientation of the crowd members. Crowd noise is estimated at 60 dBA at one meter (3.28 feet) away for raised normal speaking. This noise level would have a +5 dBA adjustment for the impulsiveness of the noise source, and a -3 dBA adjustment for the random orientation of the crowd members. Therefore, crowd noise would be 62 dBA at one meter from the source. Noise has a decay rate due to distance attenuation, which is calculated based on the Inverse Square Law. Based upon the Inverse Square Law, sound levels decrease by 6 dBA for each doubling of distance from the source. As a result, crowd noise would be 56.0 dBA at 6.56 feet and 52.3 dBA at 10 feet. Therefore, crowd noise at the closest existing sensitive receptors (located 10 feet away) would not exceed the City of East Palo Alto's 65 dBA standard and the City of Menlo Park's 60 dBA standard. Noise from crowd noise would primarily occur during the "daytime" activity hours of 7:00 a.m. to 10:00 p.m. Furthermore, the project would be required to comply with the noise standards set forth in the City's General Plans and Municipal Codes. Therefore, in this regard impacts would be **less than significant**.

Mechanical Equipment

Regarding mechanical equipment, the proposed project would generate stationary-source noise associated with heating, ventilation, and air conditioning (HVAC) units. HVAC units typically generate noise levels of approximately 52 dBA at 50 feet.[11] The nearest existing sensitive receptor's lines are located approximately 25 feet from the closest potential proposed living area of the site. At 25 feet, mechanical equipment noise levels would be 58 dBA. However, the mechanical equipment would be located within the parking garage in an enclosed building. Therefore, noise levels from the mechanical equipment would not be audible from the nearest sensitive receptors. The mechanical equipment could also be roof mounted, however this would be centrally located, shielded by parapets, and more than 70 feet from the nearest sensitive receptor.

Additionally, the project would include a water tank and fire pump station for emergencies. Generally, water tanks are inactive and do not generate noise. The fire pump equipment typically generates noise levels of approximately 77 dBA at 50 feet.[12] The nearest sensitive receptor is located approximately 45 feet from the proposed water tank and fire pump equipment. At 45 feet, noise levels generated by the water tank and fire pump equipment would be 78 dBA. However, the fire pump equipment would be fully enclosed inside of the pump house. The solid wall enclosure surrounding the equipment would reduce noise levels to below 53 dBA. The adjacent sensitive receptor is located within the City of East Palo Alto. Therefore, the noise level is below the City of East Palo Alto's 65 dBA exterior standard. The nearest City of Menlo Park sensitive receptor is approximately 700 feet south of the proposed water tank and fire pump. At 700 feet, the fire pump equipment would be approximately 29 dBA which is below the City of Menlo Park's 60 dBA exterior standard. The proposed project would not place mechanical equipment near residential uses, and noise from this equipment would not be perceptible at the closest sensitive receptor (existing residences 25 feet from the property line). Impacts from mechanical equipment would be **less than significant**.

Loading Area Noise

The project is a mixed-use development that would necessitate occasional deliveries. The project site does not include a designated loading area, therefore it is assumed trucks would unload adjacent to the commercial area on Euclid Avenue. The primary noise associated with deliveries is the arrival and departure of trucks. Operations of proposed mixed-use project would potentially require deliveries of vans and light trucks and not heavy-duty trucks. Normal deliveries typically occur during daytime hours. During loading and unloading activities, noise would be generated by the trucks' diesel engines, exhaust systems, and brakes during low gear shifting' braking activities; backing up toward the docks/loading areas; dropping down the dock ramps; and maneuvering away from the docks. The project is not anticipated to require a significant number of truck deliveries. The majority of deliveries for the commercial uses would consist of vendor deliveries in vans and light-duty trucks. The closest that the proposed project loading area could be located to sensitive receptors would be approximately 50 feet away on O'Connor Street. While there would be temporary noise increases during truck maneuvering and engine idling, these impacts would be of short duration and infrequent. Typically, heavy truck operations generate a noise level of 68 dBA at a distance of 30 feet. At 50 feet, noise levels would

[11] Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, July 6, 2010.
[12] FHWA (Federal Highway Administration). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02).

attenuate to 63.6 dBA. However, the project does not anticipate heavy truck operations, therefore noise levels would be lower. As shown in Table 15-5: Existing Traffic Noise, existing ambient noise levels for the intersection of Euclid Avenue and O'Connor Street were 64.2 dBA. Therefore, existing noise levels are higher than the anticipated noise from the delivery operations. As noise levels associated with trucks and loading/unloading activities would be infrequent and irregular, impacts would be **less than significant**.

Parking Areas

Traffic associated with parking areas is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up and car pass-bys may be an annoyance to adjacent noise-sensitive receptors. Parking lot noise can also be considered a "stationary" noise source.

The instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys range from 53 to 61 dBA at 50 feet and may be an annoyance to noise-sensitive receptors. Conversations in parking areas may also be an annoyance to sensitive receptors.[13] Sound levels of speech typically range from 33 dBA at 48 feet for normal speech to 50 dBA at 50 feet for very loud speech.[14] It should be noted that parking lot noise are instantaneous noise levels compared to noise standards in the DNL scale, which are averaged over time. As a result, actual noise levels over time resulting from parking lot activities would be far lower.

The proposed project includes 625-space central parking garage would be located in the center of the project with a main garage access off of Manhattan Avenue, with 52 angled street parking provided on Manhattan and Euclid avenues. Noise impacts associated with parking would be considered minimal since the parking area would be enclosed within a structure. In addition, parking lot noise would also be partially masked by the background noise from traffic along, US-101 and W. Bayshore Road.

The closest adjacent residential uses would be approximately 350 feet from the access driveway to the parking structure. Based on this distance, the vehicle related noise levels would be approximately 44 dBA, L_{eq}. Therefore, noise levels would also be below the City of East Palo Alto's 65 dBA for residential uses and the City of Menlo Park's 60 dBA exterior standard for residential uses. Noise associated with parking lot activities is not anticipated to exceed the City's Noise Standards or the California Land use Compatibility Standards during operation. Therefore, noise impacts from parking lots would be **less than significant**.

Landscape Maintenance Activities

Development and operation of the project includes new landscaping that would require periodic maintenance. Noise generated by a gasoline-powered lawnmower is estimated to be approximately 70 dBA at a distance of 5 feet. Maintenance activities would operate during daytime hours for brief periods of time as allowed by the City Municipal Code and would not permanently increase ambient noise levels in the project vicinity and would be consistent with activities that currently occur at the surrounding

[13] Kariel, H. G., *Noise in Rural Recreational Environments*, Canadian Acoustics 19(5), 3-10, 1991.
[14] Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden. Noise Navigator Sound Level Database with Over 1700 Measurement Values, July 6, 2010.

uses. Therefore, with adherence to the City's Municipal Code, impacts associated with landscape maintenance would be **less than significant**.

Traffic Noise

Implementation of the project would generate increased traffic volumes along study roadway segments. The project is expected to generate 2,748 net average daily trips, which would result in noise increases on project area roadways. In general, a traffic noise increase of less than 3 dBA is barely perceptible to people, while a 5-dBA increase is readily noticeable (Caltrans, 2013). Generally, traffic volumes on project area roadways would have to approximately double for the resulting traffic noise levels to increase by 3 dBA. Therefore, permanent increases in ambient noise levels of less than 3 dBA are considered to be **less than significant**.

As shown in Table 15-13: Existing and Project Traffic Noise, the existing traffic-generated noise level on project area roadways is between 50.0 dBA Ldn and 80.1 dBA Ldn at 100 feet from the centerline. As previously described, Ldn is 24-hour average noise level with a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

Traffic noise levels for roadways primarily affected by the project were calculated using the FHWA's Highway Noise Prediction Model (FHWA-RD-77-108). Traffic noise modeling was conducted for conditions with and without the project, based on traffic volumes (Kimley-Horn, 2020). As noted in Table 15-13, the project would have an increase of less than 3.0 dBA for all the roadway segments analyzed. As an increase under 3 dBA is barely perceptible to people, the project would not have a significant impact on existing traffic noise levels.

Table 15-13: Existing and Project Traffic Noise

Roadway Segment	Existing Conditions (Existing Development)		With Project		Project Change from Existing Conditions	Significant Impact?
	ADT	dBA Ldn[1]	ADT	dBA Ldn[1]		
University Avenue						
Between Bayfront Expressway and O'Brien Drive	22,800	63.9	22,900	63.9	0.0	No
Between O'Brien Drive and Notre Dame Avenue	19,200	60.9	19,200	60.9	0.0	No
Between Notre Dame Avenue and Kavanaugh Drive	19,800	61.0	19,900	61.0	0.0	No
Between Kavanaugh Drive and Bay Road	20,100	61.1	20,200	61.1	0.0	No
Between Bay Road and Runnymede Street	17,900	60.6	18,100	60.6	0.0	No
Between Runnymede Street and Bell Street	15,300	59.9	15,500	60.0	0.1	No
Between Bell Street and Donohoe Street	17,500	60.5	17,800	60.6	0.1	No
Between Donohoe Street and NB US-101 Ramps	26,400	62.4	26,900	62.4	0.1	No

Roadway Segment	Existing Conditions (Existing Development)		With Project		Project Change from Existing Conditions	Significant Impact?
	ADT	dBA Ldn[1]	ADT	dBA Ldn[1]		
Between NB US-101 Ramps and SB US-101 Ramps	32,300	63.2	33,100	63.3	0.1	No
S/O Woodland Avenue	26,400	62.2	27,500	62.4	0.2	No
Between SB US-101 Ramps and Woodland Avenue	14,300	59.6	14,600	59.7	0.1	No
Willow Road						
N/O NB US-101 Ramps	40,100	67.6	40,100	67.6	0.0	No
Between NB US-101 Ramps and SB US-101 Ramps	33,200	66.8	33,500	66.9	0.0	No
Between SB US-101 Ramps and Bay Road	29,000	62.7	29,300	62.7	0.0	No
S/O Bay Road	8,300	57.3	8,300	57.3	0.0	No
Manhattan Avenue						
W/O Euclid Avenue	1,600	50.0	1,900	50.7	0.7	No
Between Euclid Avenue and O'Conner Street	2,100	51.2	3,200	53.0	1.8	No
Between O'Conner Street and Woodland Avenue	4,100	54.1	5,500	55.4	1.3	No
Donohoe Street						
W/O NB US-101 Ramp On-Ramp	12,200	58.9	12,200	58.9	0.0	No
Between NB US-101 On-Ramp and University Avenue	23,400	61.8	23,400	61.8	0.0	No
Between University Avenue and NB US-101 Off-Ramp	21,400	61.4	21,500	61.4	0.0	No
Between NB US-101 Off-Ramp and Bayshore Road	21,200	61.4	21,200	61.4	0.0	No
E. Bayshore Road						
E/O Donohoe Street	10,400	58.4	10,500	58.5	0.0	No
US-101						
S/O University Avenue	223,200	80.1	223,917	80.2	0.0	No
Between University Avenue and Willow Road	219,800	80.1	220,125	80.1	0.0	No
N/O Willow Road	206,400	79.8	207,072	79.8	0.0	No

Source: Based on traffic data provided by Kimley-Horn, 2020. Refer to **Appendix H** for traffic noise modeling results.
ADT = average daily trips; dBA = A-weighted decibels; Ldn = day-night noise level
Notes:
1. Traffic noise levels are at 100 feet from the roadway centerline.
2. This level is above the perceptible noise level change of 3.0 dBA. However, at 50.0 dBA the noise level is under the City's noise threshold for residential uses.

Overall, implementation of MM N-1.1 and adherence to Municipal Code requirements, noise impacts associated with traffic, mechanical equipment, deliveries, loading/unloading activities, and parking lot noise would be reduced to a **less than significant level with mitigation.**

MM N-1.1 Construction Noise Reduction

Prior to Grading Permit issuance, the applicant shall demonstrate, to the satisfaction of the City of East Palo Alto Director of Public Works or City Engineer that all applicable construction plans and specification include the following measures:

- Construction activities shall be restricted to daytime hours of between 7:00 a.m. and 8:00 p.m. on weekdays.
- Prior to the start of construction activities, the construction contractor shall:
  - Maintain and tune all proposed equipment in accordance with the manufacturer's recommendations to minimize noise emission.
  - Inspect all proposed equipment and should fit all equipment with properly operating mufflers, air intake silencers, and engine shrouds that are no less effective than as originally equipped by the manufacturer.
  - Post a sign, clearly visible at the site, with a contact name and telephone number of the City of East Palo Alto's authorized representative to respond in the event of a noise complaint.
  - Place stationary construction equipment and material delivery in loading and unloading areas as far as practicable from the residences.
  - Limit unnecessary engine idling to the extent feasible.
  - Use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with human spotters.
  - Use low-noise emission equipment.
  - Limit use of public address systems.
  - Minimize grade surface irregularities on construction sites.

Impact N-2: The project would not generate excessive groundborne vibration or groundbourne noise levels. This is a less than significant impact.

Construction

Increases in groundborne vibration levels attributable to the project would be primarily associated with construction-related activities. Construction on the project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

The FTA has published standard vibration velocities for construction equipment operations. In general, depending on the building category of the nearest buildings adjacent to the potential pile driving area,

the potential construction vibration damage criteria vary. For example, for a building constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.50 inch per second (in/sec) peak particle velocity (PPV) is considered safe and would not result in any construction vibration damage. In general, the FTA architectural damage criterion for continuous vibrations (i.e. 0.2 in/sec) appears to be conservative. The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience cosmetic damage (e.g. plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on soil composition and underground geological layer between vibration source and receiver.

Table 15-14: Typical Construction Equipment Vibration Levels, lists vibration levels at 10, 25, 50 and 100 feet for typical construction equipment. Groundborne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. As indicated in Table 15-14, based on FTA data, vibration velocities from typical heavy construction equipment operations that would be used during project construction range from 0.0004 to 0.3518 in/sec PPV from 10-100 feet from the source of activity. The nearest sensitive receptors are the single-family and multi-family residences approximately 10 feet from the active construction zone for the proposed project.

Table 15-14: Typical Construction Equipment Vibration Levels

Equipment	Typical Level (dBA) 25 Feet from the Source[1]	Typical Level (dBA) 50 Feet from the Source[1]	Typical Level (dBA) 100 Feet from the Source[1]
Large Bulldozer	0.089	0.0315	0.0111
Loaded Trucks	0.076	0.0269	0.0095
Rock Breaker	0.059	0.0209	0.0074
Jackhammer	0.035	0.0124	0.0044
Small Bulldozer/Tractors	0.003	0.0011	0.0004

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018
Notes: Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1+20Log(d_1/d_2)$Where: dBA_2 = estimated noise level at receptor; dBA_1 = reference noise level; d_1 = reference distance; d_2 = receptor location distance

As shown in Table 15-14: Typical Construction Equipment Vibration Levels, the highest vibration levels are achieved with the large bulldozer operations. This construction activity is expected to take place during grading. Project construction would be more than 50 feet from the closest structure. Therefore, construction equipment vibration velocities would not exceed the FTA's 0.20 PPV threshold. In general, other construction activities would occur throughout the project site and would not be concentrated at the point closest to the nearest residential structure. Therefore, vibration impacts associated with the project would be **less than significant**.

Operations

The project would not generate groundborne vibration that could be felt at surrounding uses. Project operations would not involve railroads or substantial heavy truck operations. As a result, impacts from vibration associated with project operation would be **less than significant.**

15.6.5 Cumulative Impacts

Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Cumulative noise impacts involve development of the project in combination with ambient growth and other related development projects. As noise levels decrease as distance from the source increases, only projects in the nearby area could combine with the project to potentially result in cumulative noise impacts.

Impact N-3: The project will not contribute to cumulatively considerable noise impacts. This is a less than significant impact.

Cumulative Construction Noise

The project's construction activities, when properly mitigated, would still not result in a substantial temporary increase in ambient noise levels. The project construction would comply with Section 8.52.350 of the East Palo Alto Municipal Code which limits construction hours to between the hours of 7:00 a.m. and 8:00 p.m. Monday through Sunday and Section 8.06.040 of the City of Menlo Park Municipal Code which limits construction activities between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday, and between the hours of 9:00 a.m. and 5:00 p.m. on Saturdays, Sundays or holidays. There would be periodic, temporary, noise impacts that would cease upon completion of construction activities. The project would contribute to other proximate construction noise impacts if construction activities were conducted concurrently. However, based on the noise analysis above, the project's construction-related noise impacts would be less than significant following compliance with local regulations and mitigation measures outlined in this study.

Construction activities at other planned and approved projects would be required to take place during daytime hours, and the City and project applicants would be required to evaluate construction noise impacts and implement mitigation, if necessary, to minimize noise impacts. Each project would be required to comply with the applicable City of East Palo Alto and City of Menlo Park Municipal Code limitations on allowable hours of construction. Therefore, project construction would not contribute to cumulative impacts and impacts in this regard are not cumulatively considerable.

Cumulative Operational Noise

Cumulative noise impacts describe how much noise levels are projected to increase over existing conditions with the development of the project and other foreseeable projects. Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to buildout of the project and other projects in the vicinity. However, noise from generators and other stationary sources could also generate cumulative noise levels.

Stationary Noise

As discussed above, impacts from the project's operations would be less than significant. Due to site distance, intervening land use, and the fact that noise dissipates as it travels away from its source, noise impacts from on-site activities and other stationary sources would be limited to the project site and vicinity. No known past, present, or reasonably foreseeable projects would compound or increase the operational noise levels generated by the project. Thus, cumulative operational noise impacts from related projects, in conjunction with project-specific noise impacts, would not be cumulatively significant.

Traffic Noise

A project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. Cumulative increases in traffic noise levels were estimated by comparing the Existing Plus Project and Cumulative scenarios to existing conditions. The traffic analysis considers cumulative traffic from future growth assumed in the traffic mode, as well as cumulative projects identified by the City of East Palo Alto.

The following criteria is used to evaluate the combined effect of the cumulative noise increase.

- Combined Effect. The cumulative with project noise level ("Cumulative With Project") would cause a significant cumulative impact if a 3.0 dB increase over "Existing" conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use. Although there may be a significant noise increase due to the project in combination with other related projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase must be due to the project.

The following criteria have been used to evaluate the incremental effect of the cumulative noise increase.

- Incremental Effects. The "Cumulative With Project" causes a 1.0 dBA increase in noise over the "Cumulative Without Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded. Noise by definition is a localized phenomenon and reduces as distance from the source increases. Consequently, only the project and growth due to occur in the general area would contribute to cumulative noise impacts. Table 15-15: Cumulative Plus Project Conditions Predicted Traffic Noise Levels, identifies the traffic noise effects along roadway segments in the vicinity of the project site for "Existing," "Cumulative Without Project," and "Cumulative With Project," conditions, including incremental and net cumulative impacts.

First, it must be determined whether the "Future With Project" increase above existing conditions (Combined Effects) is exceeded. As indicated in the Table 15-15: Cumulative Plus Project Conditions Predicted Traffic Noise Levels, the project would not exceed the Combined Effects criterion for any roadway segments analyzed. Next, under the Incremental Effects criteria, cumulative noise impacts are defined by determining if the forecast ambient ("Future Without Project") noise level is increased by 1 dB or more. As shown in the Table 15-15: Cumulative Plus Project Conditions Predicted Traffic Noise Levels, two segments of Manhattan Avenue exceeds the Incremental Effects criterion.

Table 15-15: Cumulative Plus Project Conditions Predicted Traffic Noise Levels

Roadway Segment	Existing	Cumulative Without Project	Cumulative With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
				dBA Difference: Existing and Cumulative With Project	dBa Difference: Cumulative Without and With Project	
University Avenue						

Roadway Segment	Existing	Cumulative Without Project	Cumulative With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
				dBA Difference: Existing and Cumulative With Project	dBa Difference: Cumulative Without and With Project	
Between Bayfront Expressway and O'Brien Drive	63.9	65.2	65.2	1.3	0.0	No
Between O'Brien Drive and Notre Dame Avenue	60.9	62.3	62.3	1.4	0.0	No
Between Notre Dame Avenue and Kavanaugh Drive	61.0	62.4	62.5	1.5	0.1	No
Between Kavanaugh Drive and Bay Road	61.1	62.4	62.4	1.3	0.0	No
Between Bay Road and Runnymede Street	60.6	62.0	62.0	1.4	0.0	No
Between Runnymede Street and Bell Street	59.9	61.6	61.6	1.7	0.0	No
Between Bell Street and Donohoe Street	60.5	62.2	62.2	1.7	0.0	No
Between Donohoe Street and NB US-101 Ramps	62.4	63.9	63.9	1.5	0.0	No
Between NB US-101 Ramps and SB US-101 Ramps	63.2	64.7	64.8	1.6	0.1	No
S/O Woodland Avenue	62.2	63.6	63.7	1.5	0.1	No
Between SB US-101 Ramps and Woodland Avenue	59.6	61.3	61.4	1.8	0.1	No
Willow Road						
N/O NB US-101 Ramps	67.6	68.9	69.0	1.4	0.1	No
Between NB US-101 Ramps and SB US-101 Ramps	66.8	68.1	68.2	1.4	0.1	No
Between SB US-101 Ramps and Bay Road	62.7	64.0	64.0	1.3	0.0	No
S/O Bay Road	57.3	57.3	57.3	0.0	0.0	No
Manhattan Avenue						
W/O Euclid Avenue	50.0	51.4	52.1	2.1	0.7	No
Between Euclid Avenue and O'Conner Street	51.2	52.4	53.7	2.5	1.3	No
Between O'Conner Street and Woodland Avenue	54.1	54.5	55.7	1.6	1.2	No
Donohoe Street						
W/O NB US-101 Ramp On-Ramp	58.9	60.5	60.5	1.6	0.0	No
Between NB US-101 On-Ramp and University Avenue	61.8	63.2	63.2	1.4	0.0	No
Between University Avenue and NB US-101 Off-Ramp	61.4	62.8	62.8	1.4	0.0	No
Between NB US-101 Off-Ramp and Bayshore Road	61.4	62.9	62.9	1.5	0.0	No

Roadway Segment	Existing	Cumulative Without Project	Cumulative With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
				dBA Difference: Existing and Cumulative With Project	dBa Difference: Cumulative Without and With Project	
E. Bayshore Road						
E/O Donohoe Street	58.4	59.7	59.7	1.3	0.0	No
US-101						
S/O University Avenue	80.1	80.1	80.1	0.0	0.0	No
Between University Avenue and Willow Road	80.1	80.0	80.0	-0.1	0.0	No
N/O Willow Road	79.8	79.7	79.7	-0.1	0.0	No

Source: Based on traffic data provided by Kimley-Horn, 2020. Refer to **Appendix G** for traffic noise modeling assumptions and results.
ADT = average daily trips; dBA = A-weighted decibels; Ldn= day-night noise levels
1. Traffic noise levels are at 100 feet from the roadway centerline.

Therefore, the project's cumulative noise contribution would be less than significant. Based on the significance criteria set forth in this EIR, no roadway segments would result in significant impacts because they would not exceed the City's threshold for noise at nearby sensitive receptors. The project would not result in long-term mobile noise impacts based on project-generated traffic as well as cumulative and incremental noise levels. Therefore, the project, in combination with cumulative background traffic noise levels, would result in a **less than significant cumulative impact.** The project's contribution to noise levels would not be cumulatively considerable.

15.7 References

California Department of Transportation, California Vehicle Noise Emission Levels, 1987.

California Department of Transportation, Traffic Noise Analysis Protocol, 2011.

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California Department of Transportation, Transportation Related Earthborne Vibrations, 2002.

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USEPA (United States Environmental Protection Agency). 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Available at: http://www.fican.org/pdf/EPA_Noise_Levels_Safety_1974.pdf

16 Public Services and Recreation

16.1 Introduction

This chapter describes the potential effects on existing public services and recreation facilities that could result from implementation of the project. The discussion addresses existing public service providers in the area, identifies and analyzes potential environmental effects or changes from the project, and recommends measures to reduce or avoid adverse impacts anticipated from project construction and operation, where warranted. For this particular subject, impacts generally occur only if the project would require the construction of new buildings or facilities in order to maintain adequate levels of performance and service in the community. Information used to prepare this section was sourced from the following documents:

- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Infrastructure, Services, and Facilities, 2017
- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Parks, Open Space and Conservation Element, 2017
- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Transportation Element, 2017
- City of East Palo Alto, Final Environmental Impact Report City of East Palo Alto General Plan Update, 2016
- Recent environmental documents prepared for the City

16.2 Scoping Issues Addressed

During the Notice of Preparation (NOP) public comment and EIR scoping period for the proposed project, no specific issues related to public services or recreation were raised.

16.3 Environmental Setting

16.3.1 Public Services

Fire Protection

The Menlo Park Fire Protection District (MPFPD) provides emergency response to all service calls including fires, medical calls and vehicle accidents for the City of East Palo Alto, City of Meno Park, Town of Atherton, and unincorporated areas of San Mateo County. The MPFPD has seven stations and covers a service area of approximately 30 square miles. The District responds to approximately 8,500 emergencies a year with about 60 percent of them being emergency medical incidents (MPFPD, 2020). The MPFPD is part of the greater San Mateo County boundary-drop plan whereby the closest apparatus responds to each call.

Station 2 is manned by seven personnel (two captains and four firefighters and one Battalion Chief) per shift. Of the seven personnel on duty, two of them are licensed paramedics providing Advanced Life Support. Station 2 is the busiest fire station in the District and San Mateo County. The project would be served by Station 2, which is located approximately 0.5-mile north of the project site.

In 2018, the MPFPD responded to a total of 2,630 incidents (MPFPD, 2018). The MPFPD's Fire Board has adopted time and response standards under Board Resolution 1818 to be on-scene of any incident within seven minutes 90 percent of the time. Seven minutes includes one minute for dispatch, up to two minutes for turnout time and four minutes for response or drive time and 11 minutes for all units to arrive on-scene of any major emergency at a first alarm assignment.[1]

Police Protection

The East Palo Alto Police Department (EPAPD) is located at 141 Demeter Street in the City, located approximately 0.92-mile northeast of the project site. The major responsibilities of EPAPD include street patrol, investigations, traffic patrol, and emergency services. The EPAPD is made up of the Patrol Division, East Palo Alto Police Department (EPAPD). The EPAPD has a staff of approximately 44 employees within three major units: Operations, Investigation, and Administration. The Operations Division has 21 officers, four sergeants, one commander, and three non-sworn staff to fulfill code enforcement and community service functions. The Investigation Division has a commander and seven police officers/detectives. The Administration Division is staffed by the Police Chief, a sergeant, and six non-sworn staff (City of East Palo Alto, 2017).

The EPAPD does not have a standard for staffing levels and uses the ratio of officers per 1,000 residents, which is 1.2 as of the 2010 US Census population (City of East Palo Alto, 2017). The EPAPD operates under a Mutual Aid Agreement with San Mateo County, which established a Countywide Protocol to provide mutual aid for every jurisdiction within the County. Outside of the County, the EPAPD also has agreements with California Highway Patrol and the City of Palo Alto Police Department, to provide mutual assistance on an as-needed basis.

Schools

The project site is located within the Ravenswood City School District (RCSD) and Sequoia Union High School District (SUHSD). The RCSD includes the following schools within and outside the City. Total school enrollment for RCSD in the 2019/2020 academic year is 3,269 students (Education Data Partnership, 2020a).

The closest RCSD school to the project site is Willow Oaks School located at 620 Willow Road in the City of Menlo Park, approximately 0.58 mile west of the project site. Other nearby local schools include:

- Belle Haven Community School (Grades TK[2]-5th) at 415 Ivy Drive in the City of Menlo Park
- Willow Oaks School (Grades K[1] to 5) in the City of Menlo Park
- Brentwood Academy (Grades K to 5) in the City of East Palo Alto
- Costano School (Grades TK-5th) in the City of East Palo Alto
- Los Robles Ronald McNair Academy (Grades K to 5) in the City of East Palo Alto
- Ravenswood Middle School (Grades 6th to 8th) in the City of East Palo Alto

[1] City of East Palo Alto, *Draft EIR General Plan Update*, page 4.13-5
[2] TK – Transitional Kindergarten; K – Kindergarten

The Sequoia Union High School District (SUHSD) service area includes the cities of Atherton, Belmont, East Palo Alto, Menlo Park, Portola Valley, Redwood City, Redwood Shores, San Carlos and Woodside. Total school enrollment for SUHSD in the 2019/2020 academic year is 10,238 students (Education Data Partnership, 2020b).

Depending on their address, students in the City attend the following high schools. The closest SUHSD school to the project site is Menlo-Atherton High School in the City of Atherton, approximately 1.7 miles west of the project site. Other nearby local high schools include:

- Sequoia Union High School in the City of Redwood City
- Carlmont High School in the City of Belmont
- Menlo-Atherton High School in the Town of Atherton
- Woodside High School in the City of Woodside

Park and Recreation Facilities

Park and recreation facilities in and around the City include City parks, county and regional parks, open space, and trails. As of 2017, the City of East Palo Alto has approximately 34 acres of usable parks and open space (approximately 1 acre per 1,000 residents).

The City owns and maintains five parks and contains 225 acres of the Don Edwards San Francisco Bay National Wildlife Refuge (City of East Palo Alto, 2020). The park closest to the project site is Bell Street Park, located at 2159 University Avenue, approximately 0.18 mile to the north. Bell Street Park is a 5-acre neighborhood park with a skateboard park and children's play area with playground and is in close proximity to the local YMCA and Senior Center.

Library and Other Public Facilities

The City is served by the San Mateo County Library System. The San Mateo County Library System, a Joint Powers Authority, includes the cities of Atherton, Belmont, Brisbane, East Palo Alto, Foster City, Half Moon Bay, Millbrae, Pacifica, Portola Valley, San Carlos and Woodside, as well as unincorporated areas of the County of San Mateo. The East Palo Alto Public Library of the San Mateo Library System is located at 2415 University Avenue, approximately 0.8 mile north of the project site.

16.4 Applicable Regulations, Plans, and Standards

16.4.1 Federal

There are no applicable Federal regulations pertaining to public services and recreation.

16.4.2 State

Police Services

All law enforcement agencies within California are organized and operate in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for police officers.

Fire Protection

According to the California Department of Forestry and Fire Protection (CAL FIRE)'s Fire Hazard Severity Zone map, the City is within the Local Responsibility Area. Fire hazards in the built environment are addressed mainly through the application of the State Fire Code and the State Building Codes (CBC). The Fire Code addresses access and water, including road standards, and vegetation removal in high fire hazard areas. The CFC requires development to show proof of nearby water sources and adequate fire flows.

Schools

Senate Bill (SB) 50 (1998), which is funded by Proposition 1A, limits the power of cities and counties to require mitigation of developers as a condition of approving new development and provides instead for a standardized fee. SB 50 generally provides for a 50/50 state and local school facilities match. SB 50 also provides for three levels of statutory impact fees. The application level depends on whether state funding is available; whether the school district is eligible for state funding; and whether the school district meets certain additional criteria involving bonding capacity, year-round schools, and the percentage of moveable classrooms in use.

California Government Code sections 65995–65998 set forth provisions to implement SB 50. Specifically, in accordance with Section 65995(h), the payment of statutory fees is "deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization…on the provision of adequate school facilities." The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

Pursuant to Government Code section 65995(l), "A state or local agency may not deny or refuse to approve a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization as defined in Section 56021 or 56073 on the basis of a person's refusal to provide school facilities mitigation that exceeds the amounts authorized pursuant to this section or pursuant to Section 65995.5 or 65995.7, as applicable."

California Education Code Section 17620(a)(1) states that the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities.

Parks

Quimby Act

The Quimby Act of 1975, (California Government Code § 66477), commonly called the "Quimby Act", allows a city or county to pass an ordinance that requires, as a condition of approval of a subdivision, either the dedication of land, the payment of a fee in lieu of dedication, or a combination of both for park and recreational purposes. It allows a city or county to require a maximum parkland dedication standard of 3 acres of parkland per 1,000 residents for new subdivision development unless the jurisdiction can demonstrate that the amount of existing neighborhood and community parkland exceeds that limit. In accordance with Section 66477, a jurisdiction may establish a parkland dedication standard based on its existing parkland ratio, provided required dedications do not exceed 5 acres per

1,000 persons. Currently, the General Plan states the City currently has a ratio of one park acre per 1,000 residents, which is below the allowable threshold of three acres per 1,000 residents.

16.4.3 Local

Vista 2035 East Palo Alto General Plan

General Plan policies relative to public services and recreation are identified below. Relevant General Plan Policies that directly address reducing and avoiding public services and recreation-related impacts include the following:

Transportation

Goal T-1: Improve safety through the design and maintenance of sidewalks, streets, intersections, and other roadway improvements.

- Policy 1.5: Coordination with public safety. Ensure that the Menlo Park Fire Protection District (MPFPD) and the City's Police Department review construction plans for roadway modifications, internal circulation, and establish, if needed, temporary alternative emergency routes to be used the duration of any construction project. During design review, ensure that roads and driveways are established that meet applicable code requirements for emergency access, including potentially including signal preemption mechanisms. Ensure that the MPFPD reviews related building plans for compliance with the Fire Code and establishes a future inspection schedule for continued compliance. Continue the existing practice of informing the MPFPD and the Police Department of projects and proactively engaging with the MPFPD and the Police Department through the Development Review Committee (DRC) and the plan check process.

Infrastructure, Services, and Facilities

Goal ISF-7: Ensure high-quality educational opportunities for East Palo Alto students.

- Policy 7.1: Educational quality. Collaborate with the Ravenswood School District, charter schools and private schools to maximize educational quality, maximize the use of existing school sites for educational purposes and improve the overall quality of the schools and to ensure that East Palo Alto residents are properly prepared for employment and have the skills and education levels needed to be competitive in current and future job markets.
- Policy 7.10: Libraries. Coordinate with San Mateo County to provide library services for the community, aiming to provide approximately 750 square feet of equipped and staffed library space per 1,000 residents.

Goal ISF-10: Provide excellent emergency services to the community.

- Policy 10.3: Fire and emergency services. Continue to coordinate with the Menlo Park Fire Protection District (MPFPD) to ensure excellent fire and emergency services.
- Policy 10.4: Excellent police service. Strive to continuously improve the performance and efficiency of the East Palo Alto Police Department.

Parks, Open Space, and Conservation

Goal POC-1: Create new parks and open spaces throughout the City.

- Policy 1.1: New parks and open space. Maintain a park standard of 3 acres per 1,000 residents. Undertake a program to add 79 acres of new formalized park spaces, prioritizing the areas of the City currently underserved by parks (Weeks, Kavanaugh, Willow, and Woodland).

Economic Development

Goal ED-3: Ensure efficient coordination with public facilities and service providers to support existing and new development within the City.

- Policy 3.1: New development. Require new development to pay its fair share of required improvements to public facilities and services through impact fees or other financial and regulatory mechanisms.
- Policy 3.3: Supporting infrastructure and public services. Require new development projects to provide supporting infrastructure and public services that contribute to an overall improvement in the quality of life in the City.

Westside Area Plan

The Westside Area Plan is a separate chapter of the Vision 2035 General Plan, providing more detailed goals and policies for the Westside area of East Palo Alto. There are goals, policies, and guiding principles in this plan relative to public services to improve public safety, amenities, and beautify the Westside, as noted below:

> ***Improve public safety****. Reducing crime and promoting a safe environment throughout the Westside should be a top priority. Increased police patrolling and street lighting should be improved in areas of high crime.*
>
> ***Beautify the Westside****. The physical environment of the Westside should be enhanced to become more attractive. This includes adding street trees, renovating streets to add curbs and gutters, improving the visual character of buildings, requiring high-quality design for renovation and new buildings, and adding parks and open space, including recreation opportunities along San Francisquito Creek.*

Goals W-11 of the West Area Plan contains policies that address public infrastructure and services for new and existing development. Policies focus on ensuring that police, fire, and emergency medical services are sufficient to protect the health and safety of residents in the Westside area and are kept at an adequate level with any changes to the Westside population.

Goal W-8 of the Westside Area Plan contains policies that address park space and public facilities for Westside. The intent of this goal is to increase park space opportunities for Westside residents. Policies applicable to the project include establishing opportunities to build new parks, public spaces, and meeting spaces for residents in the Westside.

In respect to recreational facilities, there currently no public parks or community facilities in the Westside. Residents in the Westside area typically use parks and other community in adjacent jurisdictions or travel over Highway 101 to access parks in East Palo Alto (City of East Palo Alto, 2017).

East Palo Alto Municipal Code

Chapter 13.28 – Development Impact Fees

Chapter 13.28 of the City Municipal Code ensures that future development in the City contribute a reasonable fair share contribution to fund the construction of necessary facility and infrastructure improvements to serve future development, and to ensure that existing residents and developments will not bear a disproportional share of the cost for these improvements. The fees collected are used to funds projects identified in the City's capital improvement program and related public infrastructure plans.

Chapter 18.62 - Dedication of Land for Park and Recreational Purposes

Chapter 18.62 of the City Municipal Code requires future development in the City to dedicate a portion of land or payment of a fee in lieu of, or a combination of both, when a subdivision occurs to provide park and recreational facilities reasonably related to serving the development and in compliance with the standards and provisions specified in Chapter 18.62. The provisions of this chapter are enacted in compliance with Government Code Section 66477.

16.5 Environmental Impacts and Mitigation Measures

16.5.1 Significance Criteria

The following significance criteria for public services and recreation were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts of the project.

An impact of the project would be considered significant and would require mitigation if it would meet one or more of the following criteria:

- 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 any of the following public services: Fire protection, Police protection, schools, parks, other public facilities?
- 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?
- Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

16.5.2 Summary of No and/or Beneficial Impacts

Not applicable. The project proposes in an intensification of uses at the project site and would result in an increased population within the project area. The project could potentially result in adverse effects based on the thresholds of significance.

16.5.3 Impacts of the Proposed Project

Impact PSR-1: The project would increase the number of residents in the City that could incrementally increase demands upon fire protection facilities and corresponding service ratios. This is a less than significant impact.

Construction and Operation

The MPFPD is the fire district responsible for providing emergency response to all service calls including fires, medical calls and vehicle accidents in the City. The project site is located within the existing service area of the MPFPD. The closest MPFPD station to the project site is Station 2, which is headquartered at 2290 University Avenue, approximately 0.5 mile north of the project site. According to the General Plan EIR, the MPFPD has an adopted response standard of seven minutes 90 percent of the time.[3]

The project would intensify development on the subject properties, demolish and remove 161 existing residential apartment units and replace all existing structures with new buildings supporting 605 residential units ranging in size from studio to two bedrooms. This would result in a net increase of 444 residential units and an additional population of approximately 1,332 people. As a result, project development would incrementally increase the number of residents on the west side of the City (and this specific location) and could cause an incremental, concentrated increase in demand for fire protection services and facilities.

According to the General Plan EIR, buildout of the General Plan would increase demand for fire protection and emergency services, but it does not indicate a specific need to construct new fire stations or significantly expand existing stations or other facilities. The MPFPD indicated that it can maintain its current level of fire protection and emergency services within East Palo Alto with the amount of increased development included in the General Plan Update. While the proposed project would contribute to the increase in demand for fire protection services as analyzed in the General Plan EIR the demand on fire facilities and services would not create a significant environmental effect because no new fire protection facilities would need to be constructed or expanded with its implementation.

The project site is currently served by sufficient fire protection services and the project would be subject to development impact fees per Chapter 13.28 of the City Municipal Code. As a standard condition of project approval, the applicant is required to pay the City's impact fees at the time of project approval. Payment of impact fees are intended to finance new or expanded public facilities over time to mitigate the cumulative impact generated by new development in the City. Therefore, with compliance with Chapter 13.28 of the City Municipal Code and General Plan policies, the project would have a **less than significant** impact on fire protection services and facilities.

[3] City of East Palo Alto, *Draft EIR General Plan Update*, page 4.13-5.

Impact PSR-2: The project would introduce a new service population that could incrementally increase demands upon police protection facilities and corresponding service ratios. This is a less than significant impact.

Construction and Operation

The EPAPD is responsible for providing law enforcement services to the City. The police department is located approximately 0.92-mile northeast of the project site. Currently, the EPAPD does not have adopted service ratios or standard impact calculations and has no immediate need to expand its facilities to keep pace with anticipated growth or buildout of the City.[4]

The project would intensify development on the subject properties, demolish and remove 161 existing residential apartments units and replace all existing structures with new buildings supporting 605 residential units ranging in size from studio to two bedrooms. This would result in a net increase of 444 units and an additional population of approximately 1,332 people. As a result, project development could incrementally increase the number of residents in the City (and this specific location) and cause an incremental, concentrated increase in demand for police protection services and facilities.

According to the General Plan EIR, buildout of the General Plan (including planned intensification on the Westside) would increase demand for service for law enforcement services. The proposed project would contribute to the increase in demand for law enforcement services analyzed in the General Plan EIR. However, the demand on police facilities and services would not create a significant environmental effect because the project would be required to comply with applicable General Plan policies to promote public safety and support infrastructure and public services as needed. As a standard condition of project approval, the applicant is required to pay the City's impact fees at the time of project approval. Payment of impact fees are intended to finance new or expanded public facilities over time to mitigate the cumulative impact generated by new development in the City. With compliance with Chapter 13.28 of the City Municipal Code and applicable General Plan policies, the incremental increases in demand on police protection services would not affect EPAPD's ability to maintain service and would not result in the need for new or expanded police facilities. Impacts would be **less than significant**.

Impact PSR-3: The project could increase the usage of existing local parks or other recreational facilities such that physical deterioration of the facility could occur or be accelerated. This is a less than significant impact.

Construction and Operation

The City has relatively sparse improved parks and green spaces, and limited access to the Bay Trail and National Wildlife Refuge (City of East Palo Alto, 2016). The closest park to the project site is Bell Street Park, located at 2159 University Avenue, approximately 0.18 mile north of the project site. The General Plan states the City currently has a ratio of one park acre per 1,000 residents, which is below the City's objective of three acres per 1,000 residents.

[4] City of East Palo Alto. *Draft EIR General Plan Update*, page 4.13-16.

As discussed above, the project would demolish and remove the 161 existing residential units and replace all existing structures with new buildings supporting 605 residential units ranging in size from studio to two bedrooms. Compared to the existing residential uses, the project would result in an intensification of uses at the project site. The project will yield a net increase of 444 residential units and an additional population of approximately 1,332 people. As a result, project development could incrementally increase the number of residents in the City (and this specific location) and cause an incremental increase in demand for, and usage of, existing park and recreational facilities.

The new residents would tend to use the nearest recreational facilities, such as Bell Street Park or other nearby facilities (i.e. Jack Farrell Park or the Bay Trail). The potential for incremental increase of Bell Street Park and nearby facilities by new residents is not anticipated to result in acute, accelerated or substantial physical deterioration that is predictable or foreseeable. As discussed in Chapter 3, Project Description, the project is proposing a combination of Common Open Space/Park, Private Open Space and Publicly Accessible/Usable Open Space. Common Open Space is shared area for the use of residents and guests, while Private Open Space includes enclosed areas adjoining individual units reserved for the exclusive private use of residents (such as balconies, decks, porches, etc.).

Publicly Accessible/Usable Open Space areas are outdoor, unenclosed open space areas that are unrestricted and generally consist of the 9,533 square foot corner park, and passive open areas/gathering spaces at ground level fronting Manhattan Avenue, Euclid Avenue and West Bayshore Road. These public open space areas – totaling 27,666 square feet - would be accessible to future residents and the community at large.

Based on the project's potential increase in population of 1,332 people, the project would hypothetically require about 3.9 acres of parkland to meet the City's goal of 3 acres of parkland per 1,000 residents. However, the entire project site is only 3.92 acres and therefore providing that level of public amenity is infeasible.

The General Plan states the City currently has a ratio of about one park acre per 1,000 residents. To meet the City's General Plan goals, the City would need an additional 57 acres of new parkland elsewhere in the City.[5] While this would be ideal, the City recognizes there are limited sites available within the urban framework of the City to meet this goal. As an alternative the General Plan envisions new parkland and open spaces could be provided through new mini parks, improved access to the Bay Trail at key junctures, multiple new linear parks on existing right of ways, shared recreation spaces for residents, and greening existing streets with trees and landscape.[6] It is understood that these future mini parks and similar improvements to recreation spaces such as those proposed by the project would serve to further the City's parks and recreation goals consistent with the General Plan. .

The project would provide 27,666 square feet of public open space and park, which would provide as a community benefit to Westside residents and the City. In addition, per the Westside Area Plan, the City is planning new park facilities located south of University Avenue to provide additional open space amenities for Westside residents. With the planned park south of University Avenue, the public open space and corner park and open space provided by the project, and the payment of park fees as part of

[5] City of East Palo Alto, *Draft EIR General Plan Update*, page 4.13-20.
[6] City of East Palo Alto, *Draft EIR General Plan Update*, page 4.13-20.

the project's impact fee requirements, the project would be contributing toward the larger park and public benefit objectives consistent with the Westside Area Plan.

These facilities and other nearby park facilities in the City would likely be able to accommodate the increase in population as a result of the project. Therefore, the project would not result in physical deterioration of existing facilities to the point where new or physically altered parks are required.

Impact PSU-4: The project would increase the number of residents in the City that could incrementally increase demand on local public school facilities. This is a less than significant impact of the project.

Construction and Operation

The project site is located within the boundaries of two school districts, RCSD and SUHSD. The closest RCSD school to the project site is Willow Oaks School (Grades K to 5) located at 620 Willow Road in the City of Menlo Park, approximately 0.58 mile west of the project site. Residents in grades 6th to 8th would attend Ravenswood Middle School located approximately 0.74 mile north of the project site in the City of East Palo Alto. The closest SUHSD school to the project site is Menlo-Atherton High School in the City of Atherton, approximately 1.7 miles west of the project site.

As discussed above, the project will yield a net increase of 444 multi-family residential units and an additional population of approximately 1,332 people. As a result, project development could incrementally increase the student population in the City (and this specific location on the west side) and cause an incremental increase in demand for school facilities provided by RCSD and SUHSD.

To calculate the number of students generated, a student generation rate of 0.37 student per housing unit[7] was used for RCSD (RCSD, 2020). A student generation rate of 0.2 student per housing unit was used for SUHSD (SUHSD, 2018). Based on these student generation rates, the net increase of 444 residential units would generate approximately 252 new students[8] over existing conditions.

The General Plan EIR acknowledged that buildout of the General Plan would increase demand for school facilities, and that the demand for educational facilities and could result in the need for the construction of new or altered school facilities. Currently, RCSD and SUHSD do not have enough capacity within the districts' facilities and acknowledge there is insufficient capacity available to house students generated by future development (RCSD, 2020; SUHSD, 2018). The RCSD and SUHSD current school facilities are dependent on substantial capital investments in order to provide adequate learning environments for students. RCSD currently shares developer fee revenue with SUHSD with 60 percent fee revenue going to RCSD and 40 percent going to SUHSD (RCSD, 2020; SUHSD, 2018). Thus, it is likely a need for new or expanded facilities may be required to meet project demand. New students generated from the project may be spread out across RCSD and SUHSD to meet project demand, which may require improvements

[7] According to the *School Facility Fee Justification Report for Residential, Commercial, and Industrial Development Projects for the Ravenswood City School District*, the total student generation for RCSD is 0.37 student per housing unit; Total Student Generation = (0.25 students per housing unit for grades K-5) + (0.12 students per housing unit for grades 6-8) = 0.37 student per housing unit

[8] Total of New Students = (0.37 student per housing unit)(444 residential units) + (0.2 student per housing unit)(444 residential units)= 252 students

to school facilities. However, it would be unpredictable and unforeseeable to know where these future improvements would be.

The proposed project would be subject to school facility impact fees to mitigate any potential project-related increases in student enrollment. RCSD and SUHSD require the payment of development fees based on a per square foot basis of new development. The fees, which vary depending on the type of land use (e.g., the fees for residential uses may be different than commercial uses), would be collected at the building permit stage and are paid prior to building construction of the proposed project. Pursuant to Section 65995(h) of the California Government Code, the payment of school fees is considered full and complete mitigation for impacts on school facilities. Once funded, the school districts are responsible for identifying the location of new school facilities and undertaking acquisition, design, construction, and any required CEQA review of the facilities. As a result, impacts to schools would be **less than significant**.

Impact PSR-5: The project would increase the number of residents in the City that could incrementally increase demands upon library services and facilities. This is a less than significant impact.

Construction and Operation

Library facilities near the project site include the East Palo Alto Public Library, which is located at 2415 University Avenue. As previously stated, the project would result in a net yield of 444 residential units and an additional population of 1,332 people. This could incrementally increase the number of residents in the City, which would increase demand on library facilities.

According to the General Plan EIR, buildout of the General Plan (including the Westside) would likely increase demand on libraries; however, the General Plan does not identify specific plans to expand the library.[9] The project would contribute to the increased demand on library facilities as analyzed in the General Plan EIR. However, the demand library services would not create a significant environmental effect because no new library facilities would need to be constructed or expanded with its implementation. Impacts would be **less than significant**.

16.5.4 Cumulative Impact Analysis

The geographic area for the analysis of cumulative public service and recreation impacts is the service area of each provider. Contributors to cumulative effects include the list of specific development projects identified in Chapter 4, Introduction to Environmental Analysis.

Impact PSR-6: The project, in conjunction with other residential development projects as identified by the City would incrementally increase demand upon public services and recreation impacts. This is a less than significant impact of the project.

New development and redevelopment projects could result in incremental increases in demand on public services and recreation facilities in the City over time. The project, together with the identified list

[9] City of East Palo Alto, *Draft EIR General Plan Update*, page 4.13-10

of cumulative projects in Chapter 4, Introduction to Environmental Analysis, could incrementally increase demand for public services and recreation facilities.

While the combination of past projects, concurrent projects, and probable future projects could increase demand upon public services and recreation, payment of development impact fees on a project by project basis serve to mitigate the cumulative effects of development over time. The project's contribution to existing fee requirements will effectively serve to mitigate the project's contribution, should new facilities need to be constructed in the future.

16.6 References

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17 Transportation and Circulation

17.1 Introduction

This chapter describes potential environmental effects related transportation and circulation that could be caused by development of the proposed project. Information used to prepare this chapter came from the following resources:

- City of East Palo Alto, Vista 2035 East Palo Alto General Plan, 2017
- City of Menlo Park General Plan, 2016
- California Department of Transportation (Caltrans)
- Highway Capacity Manual (HCM) Transportation Research Board, 2000
- Highway Capacity Manual (HCM) 6th Edition, Transportation Research Board
- San Mateo County, Congestion Management Program, 2019
- Ravenswood/4 Corners TOD Specific Plan Draft Environmental Impact Report, 2012
- Project application and related materials

17.2 Scope of the Transportation Evaluation and CEQA Requirements

In 2018, the California state legislature, in approving Senate Bill 734 (SB 743), directed the Office of Planning and Research (OPR) to develop guidelines for assessing transportation impacts based on vehicle miles traveled, or VMT. In response to SB 743, the California Environmental Quality Act (CEQA) and its implementing guidelines (CEQA Guidelines) were significantly amended regarding the methods by which lead agencies are to evaluate a project's transportation impacts.

Section 15064.3 of the Guidelines sets forth the criteria for analyzing transportation impacts, acknowledging that lead agencies will need to adjust to these new requirements and providing ample flexibility about how such an analysis would be conducted. As of this writing, agencies across California are working to develop their own "thresholds" for measuring VMT in order to comply with these changes in CEQA. The City of East Palo adopted Resolution 94-2020 on July 7, 2020, approving policies to comply with SB 743 related to the transition from use of LOS to VMT in CEQA transportation analysis. Included in this resolution are recommendations regarding VMT methodology and thresholds of significance.

The reason for these changes, in short, is to acknowledge that traditional operational or engineering solutions to traffic congestion that focus on accommodating the automobile – such as roadway widening – lead to unintended consequences. Inefficient land use, more miles traveled, exacerbated air pollutant and greenhouse gas emissions and secondary effects of constructing roadway projects are part of the rationale behind SB 743. The State has therefore taken a bold step to pivot away from automobile-centered land planning, and to promote planning decisions and other trip reduction measures intended to reduce reliance on individual automobile trips in the course of daily living.

Understanding how the local roadway network functions from an engineering standpoint is still critical to local land use agencies to monitor traffic flow, identify safety issues, establish fees and manage congestion. However, for the purposes of evaluating environmental impacts under CEQA, the new regulations have removed congestion from the range of required subjects analyzed within CEQA documents. In a similar way, and for different reasons, parking requirements were removed from the CEQA Guidelines several years ago.

While this EIR must utilize VMT to assess potential transportation impacts and potential mitigation measures, this EIR also continues to analyze level of service (LOS) in accordance with the City's transportation guidelines for purposes of determining whether the project complies with the applicable general plan goals, policies and programs. However, this additional information regarding the project's trip generation and predicted trip distribution on the roadway network is provided for informational purposes only, as additional delay – to an intersection or roadway segment – is no longer considered a significant impact under CEQA.

17.3 Scoping Issues Addressed

During the public comment scoping period for the proposed project, the following comments regarding transportation and circulation were received and are addressed in this section. Transportation-related comments were provided by Caltrans and members of the public, and are addressed in this section to the extent required by CEQA.

- A travel demand analysis should be submitted that provides a VMT analysis resulting from the proposed project.
- Caltrans requested trip generation, distribution, turning movements, and assignment estimates for the proposed project.
- The project should include a robust transportation demand management (TDM) program to reduce VMT and greenhouse gas emissions.
- The project's primary and secondary effects on pedestrians, bicyclists, travelers with disabilities, and transit users should be evaluated, including countermeasures and trade-offs resulting from mitigating VMT increases.
- The City should identify project-generated travel demand and estimate the costs of transit and active transportation improvements necessitated by the project and viable funding sources such as the City's development impact fee program for transportation infrastructure should be identified.
- Caltrans advises that any work that encroaches onto their right-of-way requires a Caltrans-issued encroachment permit.
- General comments regarding traffic congestion.
- Support for public transit/shuttle service and better transit connections.
- General concerns regarding the amount of parking proposed.

17.4 Environmental Setting

This section presents information on existing transportation and circulation conditions in the project area.

17.4.1 Existing Roadway Network

Regional access to the project site is provided from U.S Highway 101 (US-101). Regional project traffic is anticipated to primarily use the US-101 ramps at the State Route 109 (SR 109)/University Avenue interchange and the State Route 114 (SR 114)/Willow Road interchange. Local roadways serving the project site include Woodland Avenue, Donohoe Street, and Bay Road. The project site is bordered by W Bayshore Road, Manhattan Avenue, O'Connor Street, and Euclid Avenue. An overview of the existing street and highway system is provided below.

Freeways

US 101

US 101 is a north-south freeway but runs east-west near the study area with generally four (4) mixed-flow lanes and one high occupancy vehicle (HOV) lane in each direction. The HOV lanes are in operation Monday through Friday between 5:00 AM to 9:00 AM and 3:00 PM to 7:00 PM. US-101 provides access to Sonoma County, Marina County, San Francisco County, San Mateo County, and Santa Clara County. The posted speed limit on US-101 near the study area is 65 miles per hour (mph).

State Highways

State Route 84 (SR 84)/Bayfront Expressway

State Route 84 (SR 84)/Bayfront Expressway is an east-west roadway with three (3) lanes in each direction and a divided median. SR 84/Bayfront Expressway transitions into the Dumbarton Bridge which serves as a major commuter route between the East Bay and the Peninsula/South Bay. The posted speed limit is 50 mph near the study area. SR 84/Bayfront Expressway is classified as a Highway in the City of East Palo Alto General Plan.

SR 109/University Avenue

SR 109/University Avenue is a north-south roadway with two (2) lanes in each direction and a divided median. The posted speed limit is 25 mph between Woodland Avenue and Notre Dame Avenue and 35 mph between Notre Dame Avenue and SR 84/Bayfront Expressway. On-street parking is not permitted along this roadway. SR 109/University Avenue is classified as a Major Thoroughfare in the City of East Palo Alto General Plan.

SR 114/Willow Road

SR 114/Willow Road is a north-south roadway with two (2) lanes in each direction between SR 84/Bayfront Expressway and Newbridge Street and three (3) lanes in each direction between Newbridge Street and Bay Road. The posted speed limit is 35 mph between Bay Road and Newbridge Street and 40 mph between Newbridge Street and SR 84/Bayfront Expressway. On-street parking is not permitted along this roadway. Willow Road between SR 84/Bayfront Expressway and the US-101 ramps is classified

as a Major Thoroughfare in the City of East Palo Alto General Plan. Willow Road between the US-101 ramps and Bay Road is classified as a Boulevard in the City of Menlo Park General Plan.

City Streets

Bay Road

Bay Road is an east-west roadway with two (2) lanes in each direction and a divided median east of University Avenue. To the west of University Avenue, Bay Road has one (1) lane in each direction with a two-way left-turn lane (TWLTL). Bay Road ends at Saratoga Avenue east of the Willow Road/US-101 interchange and begins again at Willow Road just south of the interchange. The posted speed limit is 25 mph between the Willow Road/US-101 interchange and the Bay Trail and 30 mph west of the Willow Road/US-101 interchange. On-street parking is allowed on both sides between the Bay Trail and Gloria Way, on the south side between Gloria Way and Ralmar Avenue, and on both sides between Ralmar Avenue and Saratoga Avenue. Bay Road is classified as a Neighborhood Street between Saratoga Avenue and Newbridge Street, a Residential Boulevard between Newbridge Street and University Avenue, and a Neighborhood Main Street between University Avenue and the Bay Trail in the City of East Palo Alto General Plan.

W Bayshore Road/Manhattan Avenue

W Bayshore Road/Manhattan Avenue is an east-west undivided roadway with one (1) lane in each direction. W Bayshore Road transitions into Manhattan Avenue to the south which then runs north-south and begins again as Capitola Avenue/W Bayshore Road just east of University Avenue. The posted speed limit is 25 mph, and on-street parking is available on the south side of W Bayshore Road and on both sides of Manhattan Avenue. W Bayshore Road is classified as a Connector in the City of East Palo Alto General Plan. The parking garage entrance for the proposed project is located along Manhattan Avenue. The project is also proposing to convert the existing parallel parking on the west side of Manhattan Avenue to angled parking.

Bell Street

Bell Street is an east-west roadway with one (1) lane in each direction. There is no posted speed limit, but it is assumed to be 25 mph since the roadway provides access to residential land uses. Parking is available on both sides of the roadway. Bell Street is classified as a Neighborhood Street in the City of East Palo Alto General Plan.

Donohoe Street

Donohoe Street is an east-west roadway with one (1) to three (3) lanes in each direction. Donohoe Street transitions into E Bayshore Road at Euclid Avenue and continues eastward, terminating at Clark Avenue. There is no posted speed limit on Donohoe Street, but it is assumed to be 25 mph as posted on E Bayshore Road. Parking is available on the north side between E Bayshore Road and Salas Court and on both sides between Salas Court and Clark Avenue. Donohoe Street is classified as a Major Thoroughfare between Euclid Avenue and E Bayshore Road and a Connector between E Bayshore Road and Clarke Avenue in the City of East Palo Alto General Plan.

East Bayshore Road

East Bayshore Road is an east-west roadway with one (1) to two (2) lanes in each direction. East Bayshore Road transitions into Donohoe Street at Euclid Avenue and transitions back into E Bayshore Road east of Cooley Avenue. The posted speed limit is 25 mph and on-street parking is available on the north side between Menalto Avenue and Lincoln Street and between Clarke Avenue and Pulgas Avenue. East Bayshore Road is classified as a Connector between Bay Road and Euclid Avenue and between Clark Avenue and the San Francisquito Creek and is classified as a Major Thoroughfare between Donohoe Street and Clark Avenue in the City of East Palo Alto General Plan.

Euclid Avenue

Euclid Avenue is a north-south roadway with one (1) lane in each direction. The posted speed limit is 25 mph and on-street parking is available on both sides of the roadway. Euclid Avenue is classified as a Neighborhood Street in the City of East Palo Alto General Plan. The proposed project will convert the existing parallel parking on both sides of Euclid Avenue between E O'Keefe Street and O'Connor Street to angled parking.

Notre Dame Avenue

Notre Dame Avenue is an east-west roadway with one (1) lane in each direction. There is no posted speed limit, but it is assumed to be 25 mph since the roadway provides access to residential land uses. Parking is available on both sides of the roadway. Notre Dame Avenue is classified as a Neighborhood Street in the City of East Palo Alto General Plan.

Kavanaugh Drive

Kavanaugh Drive an east-west roadway with one (1) lane in each direction. The posted speed limit is 25 mph and parking is available on both sides of the roadway. Kavanaugh Drive is classified as a Neighborhood Street in the City of East Palo Alto General Plan.

O'Brien Drive

O'Brien Drive is an east-west roadway with one (1) lane in each direction. The posted speed limit is 30 mph and parking is available on both sides between Willow Road and Kavanaugh Drive. O'Brien Drive is classified as a Mixed-Use Collector in the City of Menlo Park General Plan.

O'Connor Street/Walnut Street

O'Connor Street/Walnut Street is an east-west roadway with one (1) lane in each direction. The posted speed limit is 25 mph, and on-street parking is available on both sides. O'Connor Street is classified as a Bicycle Boulevard in the City of Menlo Park General Plan.

Runnymede Street

Runnymede Street is an east-west roadway with one (1) lane in each direction. The posted speed limit is 25 mph, and on-street parking is available on both sides. Runnymede Street is classified as a Neighborhood Connector in the City of East Palo Alto General Plan.

Woodland Avenue

Woodland Avenue is an east-west roadway with one (1) to two (2) lanes in each direction. The posted speed limit is 25 mph. Woodland Avenue is classified as a Connector between Manhattan Avenue and W Bayshore Road and a Neighborhood Connector between Euclid Avenue and Manhattan Avenue in the City of East Palo Alto General Plan. Woodland Avenue is also classified as a Neighborhood Connector west of Euclid Avenue in the City of Menlo Park General Plan.

17.4.2 Pedestrian Facilities

Existing pedestrian facilities surrounding the project site include sidewalks on both sides of O'Connor Street, on both sides of Euclid Avenue between E O'Keefe Street and O'Connor Street, and both sides of W Bayshore Road/Manhattan Avenue between O'Connor Street and the Four Seasons Hotel Driveway. No sidewalks currently exist on the north/east side of W Bayshore Road/Manhattan Avenue between Euclid Avenue and the Four Seasons Hotel Driveway and on the east side of Euclid Avenue between W Bayshore Road and E O'Keefe Street.

17.4.3 Bicycle Facilities

Bicycle facilities are divided into three classes. Class I bike paths are physically separated from motor vehicle lanes and offer two-way bicycle travel. Class II bike lanes on roadways are marked by signage and pavement striping. Painted buffers may separate the vehicle travel lanes from the bike lane and green bike lane pavement coloring are used to highlight potential conflict zones between vehicles and cyclists. Class III bike routes share the travel lane with motor vehicles and have signs and sharrow striping to guide bicyclists on paved routes. Figure 17-1: Existing Bicycle Facilities show the bicycle facilities in the project area.

Direct access to bicycle facilities is provided adjacent to the project site including Class III bicycle routes along O'Connor Street and W Bayshore Road/Manhattan Avenue.

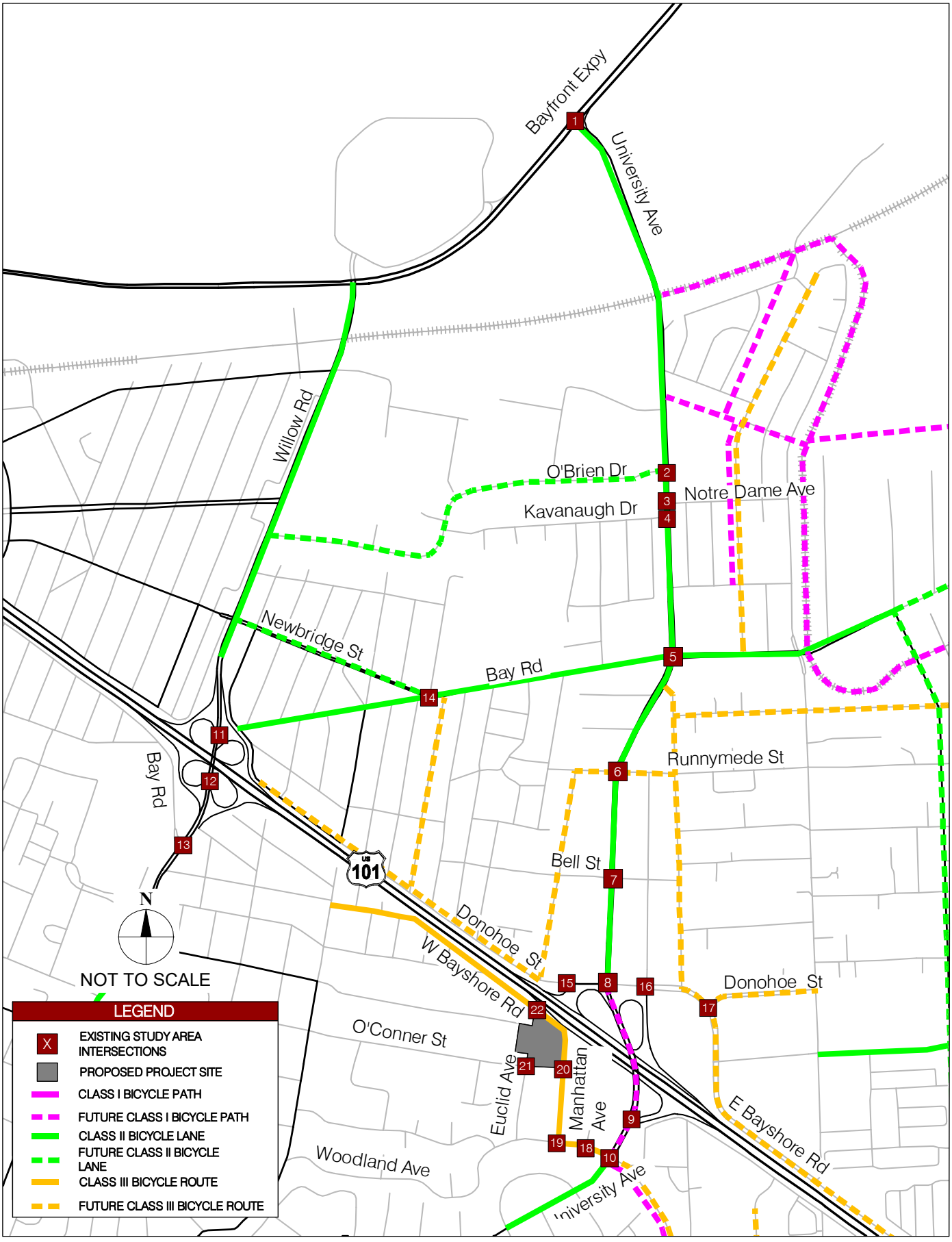
17.4.4 Transit Service

San Mateo County Transit District (SamTrans) and Alameda County Transit District (AC Transit) provides transit services within the cities of East Palo Alto and Menlo Park and surrounding cities in San Mateo County. The nearest bus stops to the project site are located near the intersection of E O'Keefe Street and Euclid Avenue and near the intersection of O'Connor Street and Manhattan Avenue. Figure 17-2: Existing Transit Service show the bicycle facilities in the project area.

The following bus routes serve the project area:

SamTrans Routes:

- Route 81: Menlo-Atherton High School, Clarke & Bayshore
- Route 280: Purdue/Fordham – Stanford Mall
- Route 281: Onetta Harris Center – Stanford Mall
- Route 296: Redwood City Transit Center – Palo Alto Transit Center
- Route 397: San Francisco – Palo Alto Transit Center



Source: Kimley-Horn, 2020

Figure 17-1: Existing Bicycle Facilities

Woodland Park Euclid Improvements
Draft EIR

Not to scale

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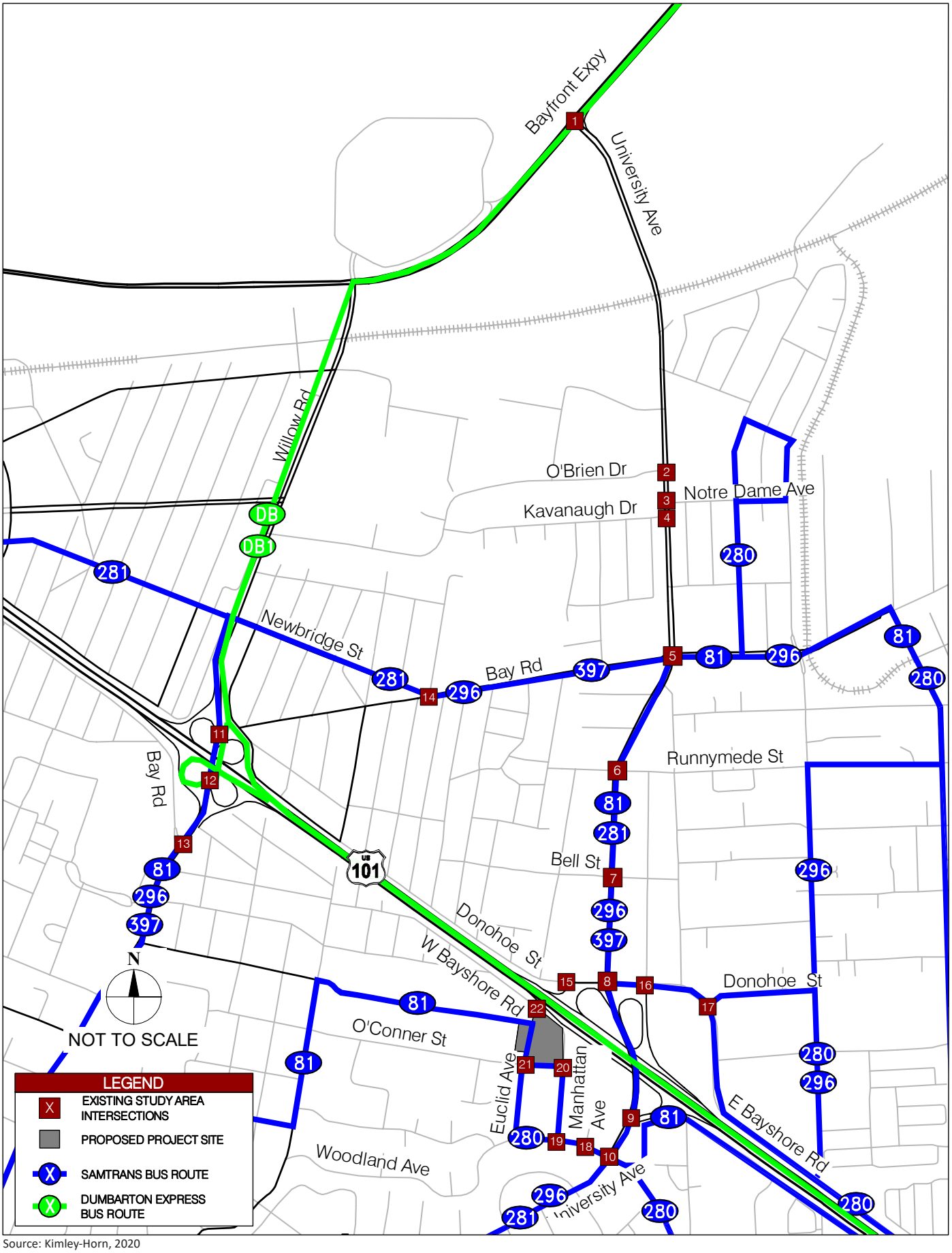

Source: Kimley-Horn, 2020

Figure 17-2: Existing Transit Service

Woodland Park Euclid Improvements
Draft EIR

Not to scale

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Dumbarton Express Routes:

- Route DB: Stanford University
- Route DB1: Stanford Research Park

It should be noted that at the time of the release of this EIR, all SamTrans school routes, including Route 81, have been suspended due to COVID-19 shelter-in-place. The schedules for the remaining SamTrans routes listed above have been reduced or adjusted. Dumbarton Express Route DB continues to operate under its regular schedule while DB1 has a slight modification to its schedule.

17.5 Traffic Analysis Methodology

17.5.1 Vehicle Miles Travelled (VMT)

With the passage of SB 743, VMT has become an important indicator for determining if a new development would result in a "significant transportation impact". In the City of East Palo Alto's City Council staff report for adoption of SB 743 – LOS to VMT Policy dated July 7, 2020, a VMT analysis methodology for residential, office, and retail projects is identified. As it pertains to this project, the residential and retail sections are relevant.

For residential uses, although it is recommended that the City use City/County Association of Governments of San Mateo County (C/CAG) Travel Demand Model to establish a citywide average home-based VMT per capita for existing residential land uses, "due to the City's small size and lack of rail transit service, the project generated VMT for all residential developments will be assumed to be equal to the citywide average home-based VMT per capita." As for the significance threshold, it is recommended that "the City of East Palo Alto adopt a significance threshold equal to the existing (at the time of policy development) citywide average home-based VMT per capita for residential developments."

For retail uses, projects that include a small retail component may be considered to have a less than significant impact on VMT. As mentioned in the screening criteria, local-serving retail, defined as retail developments containing up to 35,000 gross square feet will be considered to be local-serving, and is presumed to have a less than significant VMT impact.

17.5.2 Supplemental Traffic Operations Evaluation

For informational purposes, supplemental level of service (LOS), freeway, and queuing analyses were conducted in accordance with the City's transportation guidelines for purposes of determining whether the project complies with the applicable general plan goals, policies, and programs. However, this additional information regarding the project's trip generation and predicted trip distribution on the roadway network is provided for informational purposes only, as additional delay – to an intersection or roadway segment – is no longer considered a significant impact under CEQA.

Study Intersections & Segments

The study intersections, freeway segments, and roadway segments are those through which the majority of the project-generated traffic would traverse, and where potential traffic impacts would be most likely to occur.

As shown in Figure 17-3: Study Area and Project Trip Distribution, the following intersections were analyzed as part of the traffic analysis, with the intersections located in Menlo Park noted:

Study Intersections

1. University Avenue/Bayfront Expressway (Menlo Park)
2. University Avenue/O'Brien Drive
3. University Avenue/Notre Dame Avenue
4. University Avenue/Kavanaugh Drive
5. University Avenue/Bay Road
6. University Avenue/Runnymede Street
7. University Avenue/Bell Street
8. University Avenue/Donohoe Street
9. University Avenue/SB US-101 Ramps
10. University Avenue/Woodland Avenue
11. Willow Road/Northbound (NB) US-101 Ramps (Menlo Park)
12. Willow Road/Southbound (SB) US-101 Ramps (Menlo Park)
13. Willow Road/Bay Road (Menlo Park)
14. Bay Road/Newbridge Street/Ralmar Avenue
15. Donohoe Street/NB US-101 On-ramp
16. Donohoe Street/NB US-101 Off-ramp
17. Donohoe Street/E Bayshore Road
18. Woodland Avenue/University Circle
19. Woodland Avenue/Manhattan Avenue
20. O'Connor Street/Manhattan Avenue
21. O'Connor Street/Euclid Avenue
22. W Bayshore Road/Euclid Avenue

Freeway Segments

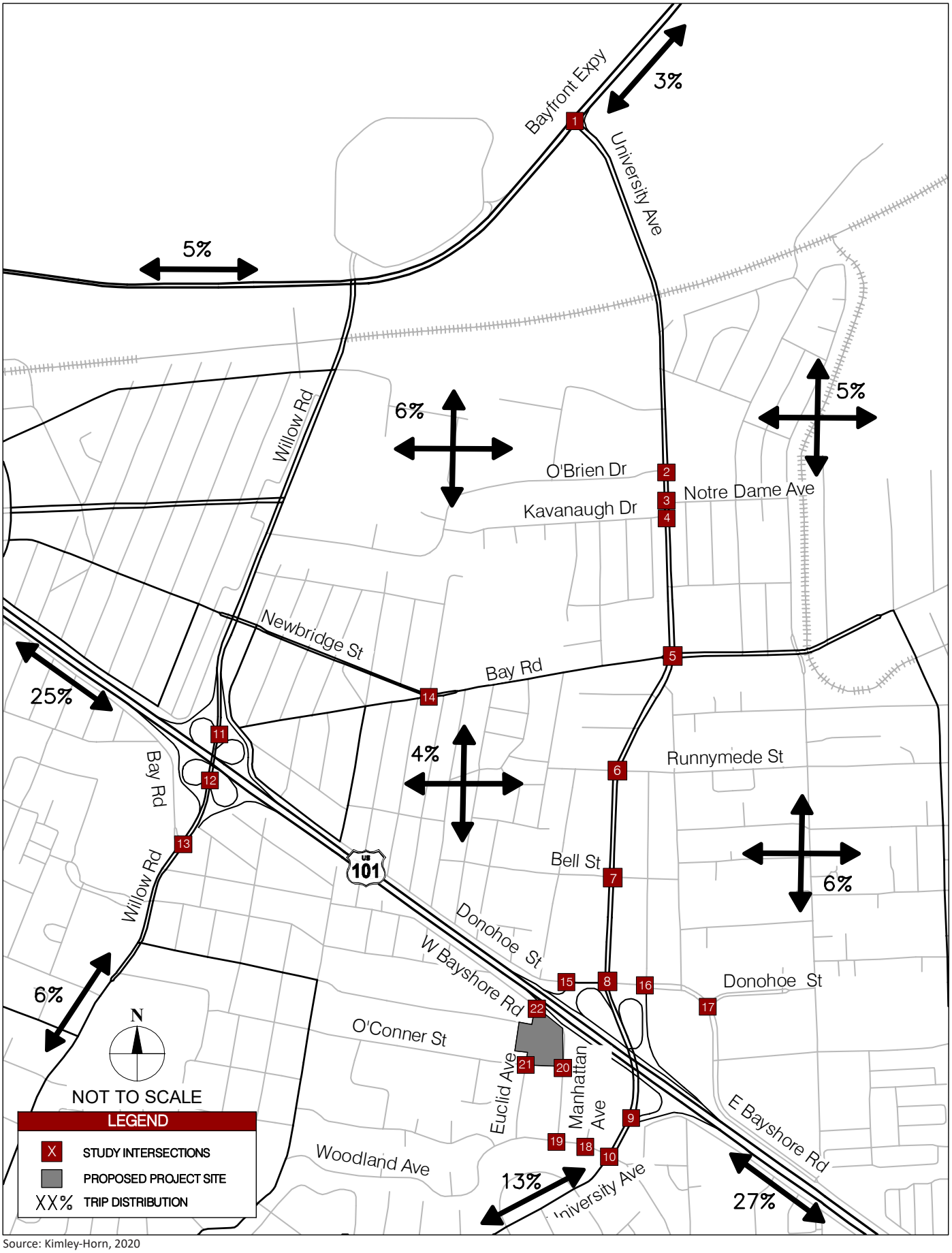
1. US-101 between Embarcadero Road and University Avenue
2. US-101 between University Avenue and Willow Road
3. US-101 between Willow Road and Marsh Road

Freeway Ramps

1. US-101 NB on-ramp from NB University Avenue
2. US-101 NB off-ramp to SB University Avenue
3. US-101 SB on-ramp from NB University Avenue
4. US-101 SB off-ramp to SB University Ave

Intersection Level of Service

Level of service (LOS) of an intersection is a qualitative measure used to describe operation conditions. The LOS of an intersection ranges from A, which represents minimal delay, to F, which represents heavy delay and a facility that is operating at or near its function capacity. An intersection LOS is defined as a function of average control delay for the intersection. Table 17-1: Signalized and Unsignalized Intersection LOS Criteria summarizes the relationship between the control delay and LOS for signalized and unsignalized intersections.



Source: Kimley-Horn, 2020

Figure 17-3: Study Area and Project Trip Distribution

Woodland Park Euclid Improvements

Draft EIR

Not to scale

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Table 17-1: Signalized and Unsignalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay (Seconds per Vehicle) for Signalized Intersections	Average Control Delay (Seconds Per Vehicle) for Unsignalized Intersections
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	≤ 10.0	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0	> 10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0	> 15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	> 25.0 to 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0	> 35.0 to 50.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0	> 50.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2010

Signalized Intersections

Signalized intersections in the City of East Palo Alto were analyzed based on the Highway Capacity Manual (HCM) 2000 method within the Traffix software. Signalized intersections in the City of Menlo Park were analyzed based on HCM 6 methodology within the Vistro software. In addition, the study intersections along University Avenue between Donohoe Street and Woodland Avenue (Intersections #8, #9, and #10), along Donohoe Street at the NB US-101 On- and Off-ramps (Intersections #15 and #16), and at the intersection of Woodland Avenue and University Circle (Intersection #18) were evaluated using SimTraffic microsimulation to better represent the existing oversaturated conditions in the area. The HCM 2000 and HCM 6 methods evaluate signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. Control delay is the amount of delay that is attributed to the particular traffic control device at the intersection, and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Unsignalized Intersections

LOS at unsignalized intersections is based on the HCM 2000 method using Traffix software for the City of East Palo Alto intersections. This method is applicable for both two-way and all-way stop-controlled intersections. For two-way stop-controlled intersections, delay is calculated for each stop-controlled

movement and for the uncontrolled left turns, if any, from the main street. For two-way stop-controlled intersections, the overall average delay and LOS are reported, as are the delay and LOS for the worst intersection movement. For all-way stop controlled intersections, the overall intersection average delay and LOS are reported.

Level of Service Standard

City of East Palo Alto

Per the City of East Palo Alto General Plan, the LOS standard for intersections is LOS D or better. At a signalized intersection, a project may cause a deficiency if the project:

- Causes operation to degrade from acceptable LOS (LOS A, B, C, or D) to unacceptable LOS (LOS E or F) or;
- Exacerbates LOS E or F condition by both increasing critical movement delay by four or more seconds and increasing the volume-to-capacity (V/C) ratio by 0.01 at an intersection evaluated using TRAFFIX software or;
- Exacerbates LOS E or F condition by increasing the average delay by four or more seconds at an intersection evaluated using SimTraffic software or;
- Increases the V/C ratio by more than 0.01 at an intersection that exhibits unacceptable operations, even if the calculated LOS is acceptable

At an unsignalized intersection, a project may cause a deficiency if the project:

- Causes operation to degrade from acceptable LOS (LOS A, B, C, or D) to unacceptable LOS (LOS E or F) or;
- Exacerbates LOS E or F condition by increasing the average delay by five or more seconds at an intersection and causes volumes under project conditions to exceed California Manual on Uniformed Traffic Control Devices (CA MUTCD) Peak-Hour Warrant Criteria

City of Menlo Park

Per the City of Menlo Park Traffic Impact Analysis Guidelines, the LOS standard for signalized intersections on arterial streets is LOS D or better. Project LOS deficiency criteria is based on the category of the intersection streets.

For intersections along Willow Road within the City of Menlo Park, a project may cause a deficiency if:

- The level of service degrades from an acceptable LOS D or better under no project conditions to an unacceptable LOS E or F with the addition of project trips or the average delay per vehicle increases by more than 23 seconds per vehicle or;
- The level of service is an unacceptable LOS E or F under existing no project and the addition of project trips causes an increase of more than 0.8 seconds of average delay per vehicle on the critical movement for any local approach

For intersections along Bayfront Expressway (SR 84), a project may cause a deficiency if:

- The level of service degrades from an acceptable LOS D or better under no project conditions to an unacceptable LOS E or F with the addition of project trips or the average delay per vehicle increases by more than four seconds per vehicle or;
- The level of service is an unacceptable LOS E or F under existing no project and the addition of project trips causes an increase in the average control delay at the intersection by four seconds or more

Freeway Mainline Segments

Freeway mainline segments were analyzed using HCM 1994 LOS criteria as defined in the City/County Association of Governments of San Mateo County (C/CAG) *Congestion Management Program (CMP) 2019* report. This method determines LOS based on the freeway volume to capacity (V/C) ratio, as shown in Table 17-2: Freeway Mainline LOS Criteria – 70 mph Free Flow Speed.

Table 17-2: Freeway Mainline LOS Criteria – 70 mph Free Flow Speed

Level of Service	Maximum V/C for an Eight-Lane Freeway
A	0.304
B	0.487
C	0.715
D	0.876
E	1.00
F	Variable

Source: Santa Mateo County Congestion Management Program, 2019

Based on the *Table II: Level of Service Standards for CMP Roadway Segments* in the C/CAG CMP 2019 report, the LOS standard for US-101 between Whipple Avenue to the Santa Clara County Line is LOS F.

San Mateo County Freeway Segments Standards

A project is considered to have a CMP deficiency if:

- The freeway segment is operating at an acceptable LOS and the project will cause the freeway segment to operate at level of service that violates the standard adopted in the current CMP or;
- The freeway segment is operating at an acceptable LOS and the future cumulative traffic with the proposed project will cause the freeway segment to operate at level of service that violates the standard adopted in the current CMP and the project will add traffic demand equal to one percent (0.01) of the freeway segment, or cause the freeway segment V/C ratio to increase by one percent (0.01) or;
- The freeway segment is operating at an unacceptable LOS without the project and the project will add traffic demand equal to one percent (0.01) or more of the segment capacity or causes the freeway segment V/C ratio to increase by one percent (0.01).

However, based on the level of service criteria stated in *Chapter 3: Traffic Level of Service Standards* in the C/CAG CMP 2019 report which states the following:

"When monitoring conformance with this CMP's recommendations, a significant increase in congestion is defined as a change in the measured level of service to any level worse than the specified LOS standard. Therefore, nonattainment of the CMP's Roadway LOS Standards would occur whenever the LOS for a roadway segment or intersection included in the CMP Roadway System is monitored as falling below the LOS standard established for that roadway facility. With one exception, this would occur regardless of the LOS standard set by C/CAG for a roadway. ***The exception would be that for a roadway where the standard was set to be LOS F, further decreases in their LOS would not be measured as falling below this CMP's standards.****"*

Therefore, since the LOS criteria for the study freeway segments is LOS F, increases in the V/C to the freeway segment will not cause the LOS to decrease below the CMP's standard.

Freeway Ramps

Freeway on-ramps were analyzed based on an existing ramp metering analysis to determine the length of on-ramp queues at each ramp. The on-ramp queues were compared to the available on-ramp storage to determine impacts on local arterials. Freeway off-ramps were evaluated in the SimTraffic microsimulation which analyzed the adjacent intersection of the off-ramp to determine whether queues would extend onto the freeway.

Intersection Queuing Analysis

The effects of vehicle queuing were analyzed and the 95th percentile queue is reported for intersection turning movements where the project would add substantial number of trips. The 95th percentile queue length represents a condition where 95 percent of the time during the peak hour, traffic queues will be less than or equal to the queue length determined by the analysis. This is referred to as the "95th percentile queue." Average queuing is less.

East Palo Alto does not have any standards for queuing deficiencies, however this analysis assumed a queuing storage deficiency would occur if the project causes the queue to extend beyond the turn pocket by 25 feet or more (i.e. length of one vehicle). When the vehicle queue already exceeds the turn pocket length under without project conditions, a queuing deficiency would occur if the project traffic lengthens the queue by 25 feet or more.

Study Conditions

This traffic analysis evaluates project impacts under the following traffic conditions:

1. Existing Conditions: Based on existing peak-hour traffic volumes and existing roadway geometry and traffic control. Existing traffic volumes were obtained from the AM and PM peak hour traffic counts collected in February 2020 (before local COVID-19 shelter-in-place restrictions were in effect).
2. Existing Plus Project Conditions: Based on existing counts plus traffic generated by the project. Existing roadway geometry and traffic control is assumed in this scenario.
3. Cumulative Conditions: Future traffic conditions established as occurring in year 2040. Based on cumulative traffic volumes that is generated by applying a 1.2 percent annual growth rate to the existing traffic volumes of major roadways and adding pending and approved project growth to

the network. Roadway improvements anticipated to be completed by 2040 is assumed in this scenario.

4. Cumulative Plus Project Conditions: Based on cumulative traffic volumes plus traffic generated by the project. Roadway improvements anticipated to be completed by 2040 are assumed in this scenario.

17.6 Applicable Regulations, Plans, and Standards

17.6.1 Federal

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 prohibits discrimination toward people with disabilities and guarantees that they have equal opportunities as the rest of society to become employed, purchase goods and services, and participate in government programs and services. The ADA includes requirements pertaining to transportation infrastructure. The Department of Justice's revised regulations for Titles II and III of the ADA, known as the 2010 ADA Standards for Accessible Designs, set minimum requirements for newly designed and constructed or altered State and local government facilities, public accommodations, and commercial facilities to be readily accessible to and usable by individuals with disabilities. These standards apply to accessible walking routes, curb ramps, and other facilities.

Surface Transportation Assistance Act Routes (STAA – Federal Designation)

The Surface Transportation Assistance Act (STAA) of 1982 allows large trucks, referred to as STAA trucks that comply with maximum length and wide requirements, to operate on routes that are part of the National Network. The National Network includes the Interstate System and other designated highways that were a part of the Federal-Aid Primary System on June 1, 1991; states are encouraged, however, to allow access for STAA trucks on all highways.

17.6.2 State

California Complete Streets Act of 2008

This act requires that the circulation elements of local general plans accommodate a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways in a manner that is suitable to the rural, suburban, or urban context of the jurisdiction. Users are defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and riders of public transportation.

California Transportation Development Act

The Mills-Alquist-Deddeh Act (SB 325) (also known as the Transportation Development Act [TDA]) was enacted in 1971 to improve public transportation services and encourage regional transportation coordination. This law provides funding to be allocated to transit- and non-transit-related purposes that comply with regional transportation plans. The TDA provides two funding sources: 1) the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide,

and 2) the State Transit Assistance fund (STA), which is derived from the statewide sales tax on diesel fuel.

California Environmental Quality Act

The Steinberg Act (SB 743) was enacted in 2013 to shift the focus of transportation analysis from driver delay to reducing greenhouse gas emissions, creating multimodal networks, and promoting mixed land uses. SB 743 requires the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide alternative level of service metrics for transportation impact evaluations. The alternative criteria must encourage greenhouse gas emissions reductions, support the development of multimodal transportation networks, and promote a diversity of land uses. In August 2014, OPR released a preliminary discussion draft of changes to the CEQA Guidelines for review and comment, and the office is currently developing a revised draft for further review and comment. Under the new guidelines, measurements of transportation impacts may include vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated.

In 2018, the California state legislature, in approving SB 743 as amended, directed the Office of Planning and Research to develop guidelines for assessing transportation impacts based on vehicle miles traveled, or VMT. In response to SB 743, the California Environmental Quality Act (CEQA) and its implementing guidelines (CEQA Guidelines) were significantly amended regarding the methods by which lead agencies are to evaluate a project's transportation impacts.

17.6.3 Regional

San Mateo County Congestion Management Program

The C/CAG serves as the county's congestion management agency. C/CAG requires that projects that generate more than 100 peak hour trips analyze project impacts.

17.6.4 Local

Vista 2035 East Palo Alto General Plan

Project relevant General Plan policies for Transportation are addressed in this section. Where inconsistencies exist, if any, they are addressed in the respective impact analysis below. Relevant General Plan Policies adopted specifically to improve transportation planning, efficiency, and safety include the following:

Goal T-1: Improve safety through the design and maintenance of sidewalks, streets, intersections, and other roadway improvements.

Goal T-2: Foster the creation of complete, multimodal streets.

- Policy 2.1 (Accommodating All Modes): Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with disabilities, and persons of all ages and abilities.
- Policy 2.2 (University Avenue): As the main transportation spine of East Palo Alto, ensure that any future redesign of University Avenue include improvements for all modes of travel, focusing on its local function as a community centerpiece for local activity and travel. Design options

could include buffered and painted bicycle lanes, streetscape improvements such as benches and pedestrian scale lighting, and mid-block crossings, reversible lanes, and the reintroduction of on-street parking. The City shall maintain control of University Avenue (not Caltrans).

- Policy 2.3 (Fix It First): Maximize the value of past investments by prioritizing infrastructure spending to support the maintenance and upgrading of existing transportation infrastructure before incurring the cost of constructing new infrastructure.

Goal T-3: Create a complete, safe, and comfortable pedestrian network for people of all ages and abilities.

- Policy 3.3 (Pedestrian Network): Create a safe, comfortable, and convenient pedestrian network that focuses on a) safe travel; b) improving connections between neighborhoods and commercial areas, and across existing barriers; c) providing places to sit or gather, pedestrian-scaled street lighting, and buffers from moving vehicle traffic; and d) includes amenities that attract people of all ages and abilities.

Goal T-4: Build a comprehensive and well-used bicycle network that comfortably accommodates bicyclists of all ages and skill-levels.

- Policy 4.1 (Bicycle Network): Improve facilities and eliminate gaps along the bicycle network to connect destinations across the city and create a network of bicycle facilities of multiple types that connect to neighboring cities, including a path along Newell Road between Highway 101 and San Francisquito Creek. The network should facilitate bicycling for commuting, school, shopping, and recreational trips by riders of all ages and levels of experience.
- Policy 4.6 (Bicycle Parking Standards): Require large public and private development projects to provide sufficient bicycle parking, shower and locker facilities.

Goal T-5: Support local and regional transit that is efficient, frequent, convenient, and safe.

- Policy 5.4 (Access to Transit): Provide connecting bicycle and pedestrian infrastructure and amenities to improve access to transit stations and stops, and encourage new development projects near transit to improve transit stop amenities.
- Policy 5.5 (Transit Stop): Support the installation of transit stop amenities, including shelters, benches, real-time information panels, lighting, bike parking, bike sharing stations, etc.
- Policy 5.9 (Cut-Through Traffic): Encourage and support efforts to improve regional transportation given that the majority of traffic congestion in the City is generated by regional circulation.

Goal T-6: Develop strategies to provide efficient and adequate vehicle parking.

- Policy 6.3 (Off-Street Parking): Ensure new off-street parking is properly designed and used efficiently.

Goal T-7: Adopt transportation performance measures.

- Policy 7.1 (Automobile Level of Service Standards): Improve the East Palo Alto circulation system roadways in concert with land development to maintain adequate levels of service for automobile travel. Automobile Level of Service (LOS) performance can be measured using a

volume-to-capacity (V/C) ratio. The performance criteria for evaluating volumes and capacities of the East Palo Alto roadway system is LOS D.

- Policy 7.2 (Updating Transportation Performance Measures): Update the transportation performance measures in this Transportation Element, including Automobile Level of Service standards, once the State of California has amended the California Environmental Quality Act Guidelines to implement Senate Bill 743's requirement to provide an alternative to automobile Level of Service for evaluating transportation impacts (See California Public Resources Code Section 21099(b)(1).) Additionally, designate appropriate infill opportunity zones within East Palo Alto, within which the automobile Level of Service standards prescribed by California Government Code Section 65089 shall not apply. (See Government Code Sections 65088.1 and 65088.4.)[1]

Goal T-8: Adopt transportation demand management and roadway system efficiency strategies.

- Policy 8.2 (Avoidance of Street Widening): When feasible, avoid widening streets to increase automobile capacity, focusing instead on operational improvements such as signal timing optimization, modern roundabouts and other Transportation Systems Management (TSM) strategies that aim to improve traffic conditions and reduce cut-through traffic by maximizing the efficiency of existing vehicle infrastructure.

Westside Area Plan

Goal W-9: Better streets and transportation options for residents and visitors.

- Policy 9.2 (Safe pedestrian network): Develop a safe pedestrian network through the Westside, including regular crosswalks, consistent sidewalks, traffic calming where necessary, special crossing treatments in areas of high pedestrian traffic, and better access across University Avenue and Highway 101.
- Policy 9.3 (Safe bicycle network): Implement a safe, complete, and well-connected bicycle network through the Westside, emphasizing connections to the existing bicycle network in Menlo Park, Palo Alto, and the rest of East Palo Alto.
- Policy 9.4 (Transit service): Work with regional transit providers to provide increased frequency of transit service, additional routes, easily accessible transit stops, and direct service to shopping and employment destinations.
- Policy 9.6 (Sidewalks): Ensure sidewalks are provided on both sides of all streets in the Westside, with wider sidewalks in retail area, and replace and repair missing sidewalks.
- Policy 9.7 (Pedestrian crosswalks): Provide better and more frequent pedestrian crosswalks, with special priority treatments such as bulbouts, elevated crosswalks, in-pavement in areas with high levels or pedestrian activity.

Goal W-10: An adequate and efficiently administered parking supply on the Westside.

- Policy 10.1 (Parking for new development): Ensure an appropriate supply of parking for new development.

[1] The City of East Palo Alto updated their transportation performance measures with the adoption of VMT thresholds in July 2020.

- Policy 10.2 (Parking regulation): Ensure adequate enforcement, permitting, and monitoring of on-street parking in the Westside.
- Policy 10.3 (Off-street parking allocation): Work with building owners to provide a fair, efficient, consistent, and integrated approach to allocating parking spaces to tenants. Work with property owners and managers to improve the parking situation for existing residents.
- Policy 10.4 (Increase opportunities for residents parking): Seek opportunities to ensure an adequate supply of parking for residents and visitors on the Westside including:
    - Constructing public parking lots or garages
    - Providing incentives for new projects to provide additional parking spaces as part of the projects for existing residents and visitors.
    - Encourage all existing and new non-residential development to all residents to park in parking lots during non-business hours.
- Policy 10.5 (Transportation demand management): Encourage efforts to reduce transportation demand and trip generation, and require significant transportation demand management planning as part of any future master planning process in the Westside.

City of Menlo Park General Plan

Goal Circ-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.

- Policy Circ-1.2 (Capital Project Prioritization): Maintain and upgrade existing rights-of-way before incurring the cost of constructing new infrastructure, and ensure that the needs of non-motorized travelers are considered in planning, programming, design, reconstruction, retrofit, maintenance, construction, operations, and project development activities and products.
- Policy Circ-1.5 (Enforcement Program): Develop and implement an enforcement program to encourage safe travel behavior and to reduce aggressive and/or negligent behavior among drivers, bicyclists, and pedestrians.
- Policy Circ-1.7 (Bicycle Safety): Support and improve bicyclist safety through roadway maintenance and design efforts.
- Policy Circ-1.8 (Pedestrian Safety): Maintain and create a connected network of safe sidewalks and walkways within the public right of way ensuring that appropriate facilities, traffic control, and street lighting are provided for pedestrian safety and convenience, including for sensitive populations.

Goal Circ-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.

- Policy Circ-2.1 (Accommodating All Modes): Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.
- Policy Circ-2.7 (Walking and Biking): Provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate roadway design and maintenance, effective traffic law enforcement, and implementation of the City's Transportation Master Plan (following completion; until such time the Comprehensive Bicycle Development Plan, Sidewalk Master Plan

and the El Camino Real/Downtown Specific Plan represent the City's proposed walking and bicycling networks).

- Policy Circ-2.11 (Design of New Development): Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.
- Policy Circ-2.13 (County Congestion Management): Work with the County Congestion Management Agency to implement the Countywide Congestion Management Program and Deficiency Plans for City and State facilities, and avoid adding any Menlo Park streets or intersections to the Countywide Congestion Management Program.
- Policy Circ-2.14 (Impacts of New Development): Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per service population or other efficiency metric) of the circulation system. New development should minimize cut-through and high-speed vehicle traffic on residential streets; minimize the number of vehicle trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitate appropriate or adequate response times and access for emergency vehicles.
- Policy Circ-2.15 (Regional Transportation Improvements): Work with neighboring jurisdictions and appropriate agencies to coordinate transportation planning efforts and to identify and secure adequate funding for regional transportation improvements to improve transportation options and reduce congestion in Menlo Park and adjacent communities.

Goal Circ-3: Increase mobility options to reduce traffic congestion, greenhouse gas emissions, and commute travel time.

- Policy Circ-3.1 (Vehicle-Miles Traveled): Support development and transportation improvements that help reduce per service population (or other efficiency metric) vehicle miles traveled.
- Policy Circ-3.4 (Level of Service): Strive to maintain level of service (LOS) D at all City-controlled signalized intersections during peak hours, except at the intersection of Ravenswood Avenue and Middlefield Road and at intersections along Willow Road from Middlefield Road to US 101. The City shall work with Caltrans to ensure that average stopped delay on local approaches to State-controlled signalized intersections does not exceed LOS E.

Goal Circ-5: Support local and regional transit that is efficient, frequent, convenient, and safe.

- Policy Circ-5.2 (Transit Proximity to Activity Centers): Promote the clustering of as many activities as possible within easy walking distance of transit stops, and locate any new transit stops as close as possible to housing, jobs, shopping areas, open space, and parks.
- Policy Circ-5.7 (New Development): Ensure that new nonresidential, mixed-use, and multiple-dwelling residential development provides associated needed transit service, improvements and amenities in proportion with demand attributable to the type and scale of the proposed development.

Goal Circ-7: Utilize innovative strategies to provide efficient and adequate vehicle parking.

- Policy Circ-7.1 (Parking and New Development): Ensure new development provides appropriate parking ratios, including application of appropriate minimum and/or maximum ratios,

unbundling, shared parking, electric car charging, car sharing, and Green Trip Certified strategies to accommodate residents, employees, customers and visitors.

17.7 Environmental Impacts and Mitigation Measures

17.7.1 Significance Criteria

CEQA Criteria

The following significance criteria for transportation and circulation were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of potential environmental impacts related to this project.

An impact of the project would be considered significant and would require mitigation if it would meet one of the following criteria (thresholds).

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) regarding VMT.
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

City of East Palo Alto VMT Criteria

In 2018, the California state legislature, in approving SB 743, directed the Office of Planning and Research to develop guidelines for assessing transportation impacts based on vehicle miles traveled, or VMT. In response to SB 743, the California Environmental Quality Act (CEQA) and its implementing guidelines (CEQA Guidelines) were significantly amended regarding the methods by which lead agencies are to evaluate a project's transportation impacts. As described in CEQA Guidelines Section 15064.3(a):

> *Generally, vehicle miles travelled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.*

This section of the Guidelines sets forth the criteria for analyzing transportation impacts, acknowledging that lead agencies will need to adjust to these new requirements and providing ample flexibility about how such an analysis would be conducted. As of this writing, agencies across California are working to develop their own "thresholds" for measuring VMT in order to comply with these changes in CEQA. The City of East Palo adopted Resolution 94-2020 on July 7, 2020, approving policies to comply with SB 743 related to the transition from use of LOS to VMT in CEQA transportation analysis. Included in this resolution are recommendations regarding VMT methodology and thresholds of significance. The following states the determination for VMT for residential uses in the City of East Palo Alto.

- *Hexagon recommends the City use the C/CAG model to establish a citywide average home-based VMT per capita for existing residential land uses, and a citywide average home-based work trip VMT per employee for existing employment uses. Due to the City's small size and lack of rail transit service,* ***the project-generated VMT for all residential developments will be assumed to be equal to the citywide average home-based VMT per capita****.*

The project would have a significant impact on VMT if the following is satisfied:

- *For residential and office projects, OPR's technical advisory recommends a significance threshold that is 15 percent below that of existing development but does not specify the region of existing development for evaluation.* ***Hexagon recommends the City of East Palo Alto adopt a significance threshold equal to the existing (at the time of policy development) citywide average home-based VMT per capita for residential developments*** *and 15 percent below the existing (at the time of policy development) homebased work trip VMT per employee for office developments.*

The following states the screening criteria for local-serving retail developments presumed to have a less than significant impact on VMT in the City of East Palo Alto.

- *OPR's Technical Advisory recommends local-serving retail be presumed to have a less than significant VMT impact. Based on a review of the sizes of retail stores in East Palo Alto and surrounding communities,* ***retail developments containing up to 35,000 gross square feet will be considered to be local-serving****.*

17.7.2 Summary of No and/or Beneficial Impacts

Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities

The project description and site plans submitted in September 2019 were reviewed to determine if the project would conflict with any adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities.

Currently direct access to bicycle facilities is provided adjacent to the project site including Class III bicycle routes along O'Connor Street and W Bayshore Road/Manhattan Avenue. Improvements proposed by the project would not affect existing Class III bicycle routes adjacent to the site. The site will also provide bicycle parking for residents, employees, and customers.

There are existing sidewalks on both sides of O'Connor Street, on both sides of Euclid Avenue between E O'Keefe Street and O'Connor Street, and both sides of W Bayshore Road/Manhattan Avenue between O'Connor Street and the Four Seasons Hotel Driveway. With the project, existing sidewalks will remain on both sides of the street and additional improvements will be constructed to improve pedestrian facilities adjacent to the project. These improvements include constructing high visibility crosswalks along Euclid Avenue at O'Conner Street and O'Keefe Street and bulbouts for the north leg of the intersection of Euclid Avenue and O'Conner Street.

SamTrans Routes 81 and 280 provide transit service to the project site. The project has identified a potential new bus stop on the northeast corner of Euclid Avenue and O'Conner Street and new routes for residents, employees, and customers of the project.

Based on the project description and September 2019 site plan, the proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or decrease the performance or safety of such facilities. Therefore, there would be no impact.

Emergency Access

Based on a review of the September 2019 site plan, the project would not change any existing emergency access via public roadways to the project site. It should be noted that the project designs are still being refined and will be reviewed according to applicable City of East Palo Alto regulations and guidelines and would not substantially increase hazards due to a design feature or incompatible use. Therefore, there would be no impact.

17.7.3 Impacts of the Proposed Project

Impact TRA-1: The project would not conflict or be inconsistent with adopted Vehicle Miles Traveled policies, plans, or programs per CEQA Guidelines section 15064.3. This is a less than significant impact.

As identified in the introduction to this chapter, vehicle miles travelled (VMT) is the current standard for evaluating transportation impacts under CEQA. Per the City's adopted VMT methodology, the residential portion of the project would have a VMT equal to the citywide VMT per capita. Per the July 7, 2020 City Council meeting and subsequent action, Hexagon Transportation Consultants noted that the citywide average residential VMT per capita is 10.23. Therefore, the project's residential VMT per capita is 10.23. The City also recommends that the VMT impact threshold for residential land uses would be equal to the citywide average home-based VMT per capita. Therefore, the VMT impact threshold for residential land uses is also 10.23. Since the project's residential VMT (i.e. 10.23) is equal to the citywide VMT average and the threshold is also equal to the citywide residential VMT average (i.e. 10.23), the project's residential VMT impact would be **less than significant**.

For the project's retail component, which consists of 5,000 square feet of ground-floor retail, it would meet the screening criteria to be considered local-serving retail because it is less than 35,000 gross square feet. Therefore, since local-serving retail is presumed to have a less than significant VMT impact, the project's retail VMT impact would be **less than significant**.

It should be noted that although the project does not result in a VMT impact for either the residential or retail uses, the project is still proposing a transportation demand management (TDM) plan. The details of this TDM plan have not been finalized at this time. However, the TDM plan should further reduce the project's VMT.

It should be noted that the City of East Palo Alto continues to recognize Levels of Service (LOS) within their respective plans, programs, ordinances, and policies as they transition to VMT thresholds. Therefore, a transportation operations evaluation, including a level of service analysis, is included for informational purposes and is discussed in Section 17.8 Supplemental Traffic Operations Analysis.

Impact TRA-2: The project may substantially increase hazards due to a design feature or incompatible use. This is a less than significant impact with mitigation incorporated.

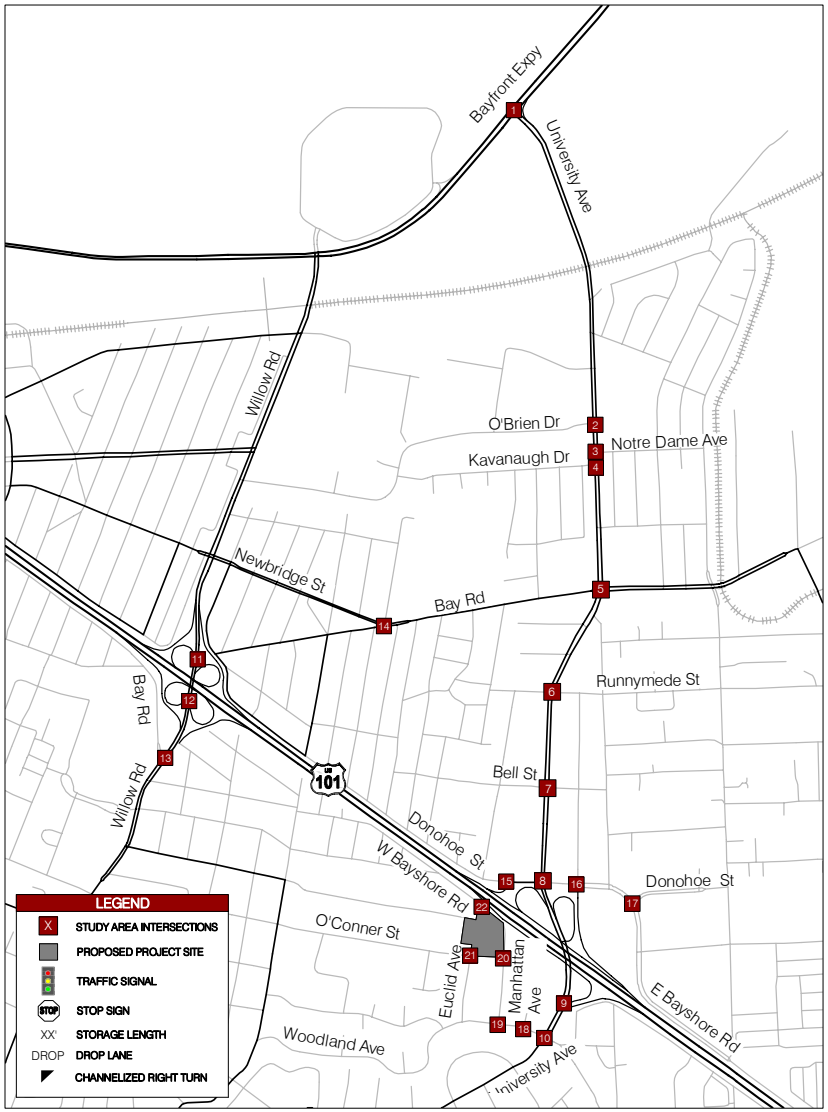
During this stage of the project, the ultimate design of the project is still in development; however, there is a potential hazard due to existing roadway geometry and the design of the project as presented. The proposed driveway access to the parking garage on Manhattan Avenue may have limited sight distance for exiting vehicles onto Manhattan Avenue, resulting in a potential site design hazard from vehicles approaching from Bayshore Road.

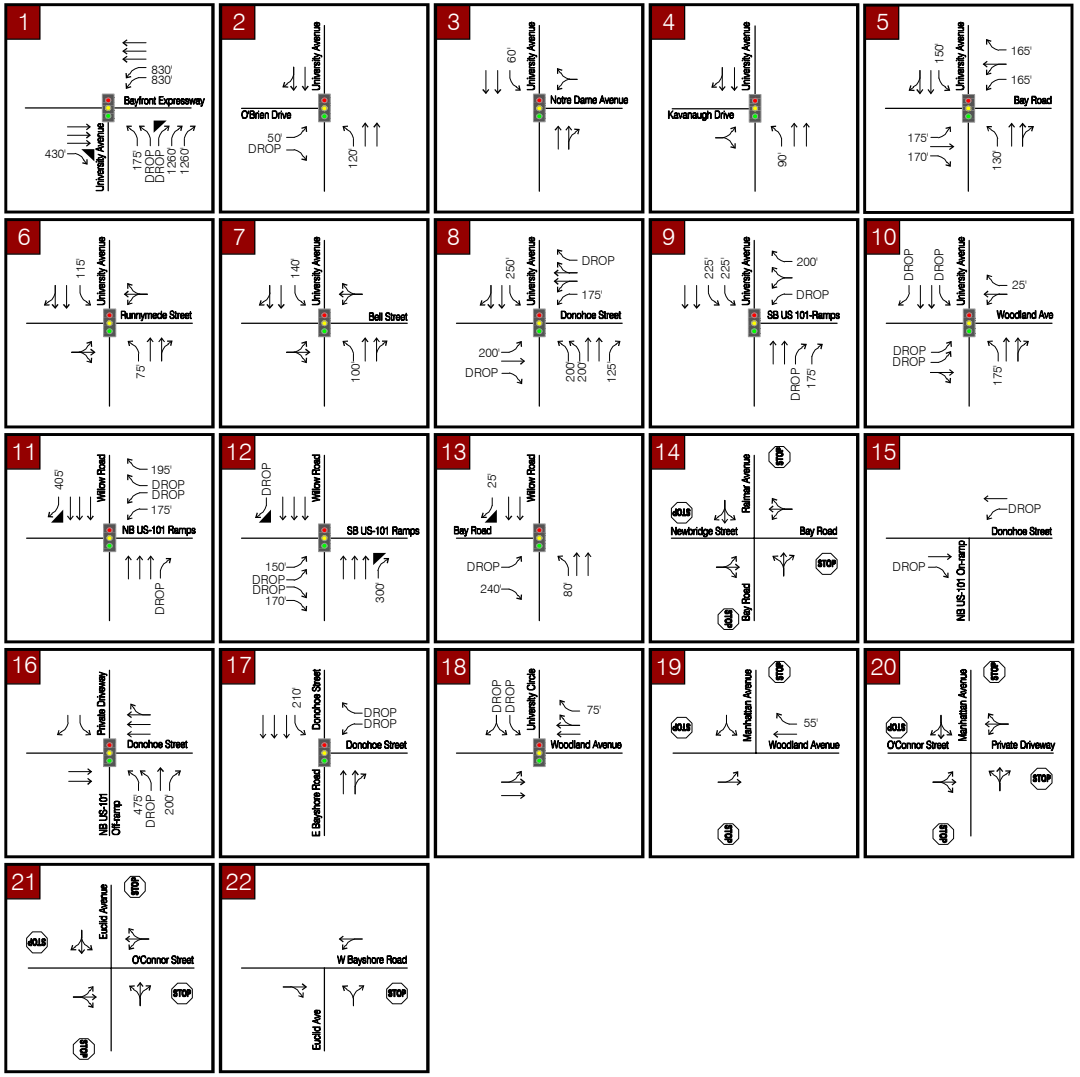
Driveway Sight Distance Evaluation

A sight distance evaluation for the parking garage entrance along Manhattan Avenue was completed to determine whether vehicles exiting the garage would have adequate sight distance to see conflicting traffic along Manhattan Avenue and Bayshore Road. Intersection sight distance for the garage access was evaluated following methodology from the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highway and Street, 7th Edition*.

The posted speed limit along Manhattan Avenue and Bayshore Road is 25 mph. However, since vehicles traveling northbound and southbound would slow down while approaching the bend where Manhattan Avenue transitions into Bayshore Road, vehicles are expected to be traveling at approximately 20 mph. The required intersection sight distance for a design speed of 20 mph for vehicles making a left-turn from the garage access to northbound Manhattan Avenue is 225 feet and making a right-turn from the garage access to southbound Manhattan Avenue is 195 feet. As shown in the solid shading in the sight distance exhibit in Figure 17-4: Intersection Sight Distance Analysis - Garage Access, the service building and landscaping along the sidewalk and in the dog park are located within the intersection sight triangle for vehicles making a right-turn while observing southbound traffic from Bayshore Road and Manhattan Avenue. Vehicles making a left-turn would need to observe both the northbound and southbound traffic. Therefore, in addition to the obstructions when observing southbound traffic from Bayshore Road and Manhattan Avenue, on-street parking and landscaping is within the intersection sight-triangle when observing northbound traffic from Manhattan Avenue. Since the project provides insufficient sight distance at the garage access, the project would have a **significant impact** as it increases hazards due to its geometric design based on the CEQA significance criteria.

It is recommended that advisory speed signs (CA MUTCD W1-1a) of 15 mph be installed approaching the bend. The required intersection sight distance for a design speed of 15 mph for vehicles making a left-turn from the garage access to northbound Manhattan Avenue is 170 feet and making a right-turn from the garage access to southbound Manhattan Avenue is 145 feet. Sight distance exhibits for the 15 mph design speed are shown in the striped shading in Figure 17-4**.** Although reducing the sight distance needed decreases the obstructions within the intersection sight triangle, there are still obstructions that hinder the view of vehicles exiting the parking garage. It is recommended that two on-street parking spaces and the landscaping be removed along the west side of Manhattan Avenue, south of the garage access. It is also recommended that the landscaping be height-restricted along the west side of Bayshore Road, north of the garage access. Since the height of a driver's eye is approximately 3.5 feet above the roadway, any objects located within the sight triangles should be less than 3.5 feet in height. To warn





Source: Kimley-Horn, 2020

Figure 17-4: Existing Conditions Lane Geometry and Traffic Control

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drivers of an upcoming horizontal curve and the change in speed, it is recommended that a warning sign be placed in advance of the bend in both the northbound and southbound directions. Horizonal alignment signs, CA MUTCD W1-1R and W1-1L for the southbound and northbound directions, respectively, should be placed with an advisory speed plaque (CA MUTCD W13-1P) of 15 mph. To warn vehicles along southbound Bayshore Road that there is an upcoming driveway from the project garage access, CA MUTCD W2-2 should be placed on the northwest corner of the bend and supplemented with a "Driveway Ahead" plaque. There currently are existing chevron alignment signs for the northbound and southbound directions to warn drivers of the horizontal alignment. It is also recommended that a convex mirror be placed on the northeast corner of the bend to allow vehicles exiting the parking garage to observe oncoming southbound traffic from Bayshore Road.

MM TRA-2.1 Traffic Calming Measures

Prior to operational use of the parking garage, the project applicant shall install traffic calming measures at the Bayshore Road/Manhattan Avenue location to reduce traffic speeds and improve the safety of driveway movements. Such measures could include advisory speeds signs, advanced warning signage along Manhattan Avenue and Bayshore Road, roadway bulbouts, raised dots, parking restrictions or other physical improvements. Final traffic calming measures will be determined in consultation with City of East Palo Alto Public Works staff during review of improvement plans.

Impact TRA-3: The project would contribute to cumulatively considerable transportation and circulation impacts. This is a less than significant impact based on CEQA thresholds.

As stated for Impact TRA-1, since the project's residential and retail VMT would be less than significant, this would also apply to cumulative conditions. Therefore, the project's impacts would be **less than significant**.

However, it is understood that the City of East Palo Alto continues to recognize LOS within their respective plans, programs, ordinances, and policies as they transition to VMT thresholds. Therefore, a transportation operations evaluation, including a level of service analysis for Cumulative Conditions, is included for informational purposes and is discussed in Section 17.8 Supplemental Traffic Operations Analysis.

17.8 Supplemental Traffic Operations Analysis

For informational purposes, a supplemental traffic analysis was conducted in accordance with the City's transportation guidelines for purposes of determining whether the project complies with the applicable General Plan goals, policies, and programs. However, this additional information regarding the project's trip generation and predicted trip distribution on the roadway network is provided for informational purposes only, as additional delay – to an intersection or roadway segment – is no longer considered a significant impact under CEQA.

17.8.1 Existing Conditions

Existing conditions lane geometry for study intersections are shown in Figure 17-5: Existing Conditions Lane Geometry and Traffic Control. Volumes were collected during the AM (7:00 – 9:00 AM) and PM peak (4:00 – 6:00 PM) on a weekday when local schools were in session in February 2020. It should be emphasized that these traffic counts were collected prior to any local COVID-19 shelter-in-place restrictions. Existing conditions traffic volumes at study intersections are shown in Figure 17-6: Existing Conditions Peak Hour Turning Movement Volumes.

As shown in Table 17-3: Existing and Existing Plus Project Transportation Delay & LOS, all study intersections operate at acceptable levels of service under the Existing Conditions during the weekday AM and PM peak hours with the exception of:

University Avenue/Bayfront Expressway (Intersection #1)

- Operates at **LOS F** during PM peak hour

University Avenue/Donohoe Street (Intersection #8)

- Operates at **LOS F** during AM and PM peak hours

University Avenue/SB US-101 Ramps (Intersection #9)

- Operates at **LOS E** during AM peak hour
- Operates at **LOS F** during AM peak hour

University Avenue/Woodland Avenue (Intersection #10)

- Operates at **LOS F** during PM peak hour

Willow Road/NB US-101 Ramps (Intersection #11)

- Operates at **LOS F** during PM peak hour

Donohoe Street/NB US 101 On-Ramp (Intersection #15)

- Operates at **LOS E** during AM peak hour

Donohoe Street/NB US 101 Off-Ramp (Intersection #16)

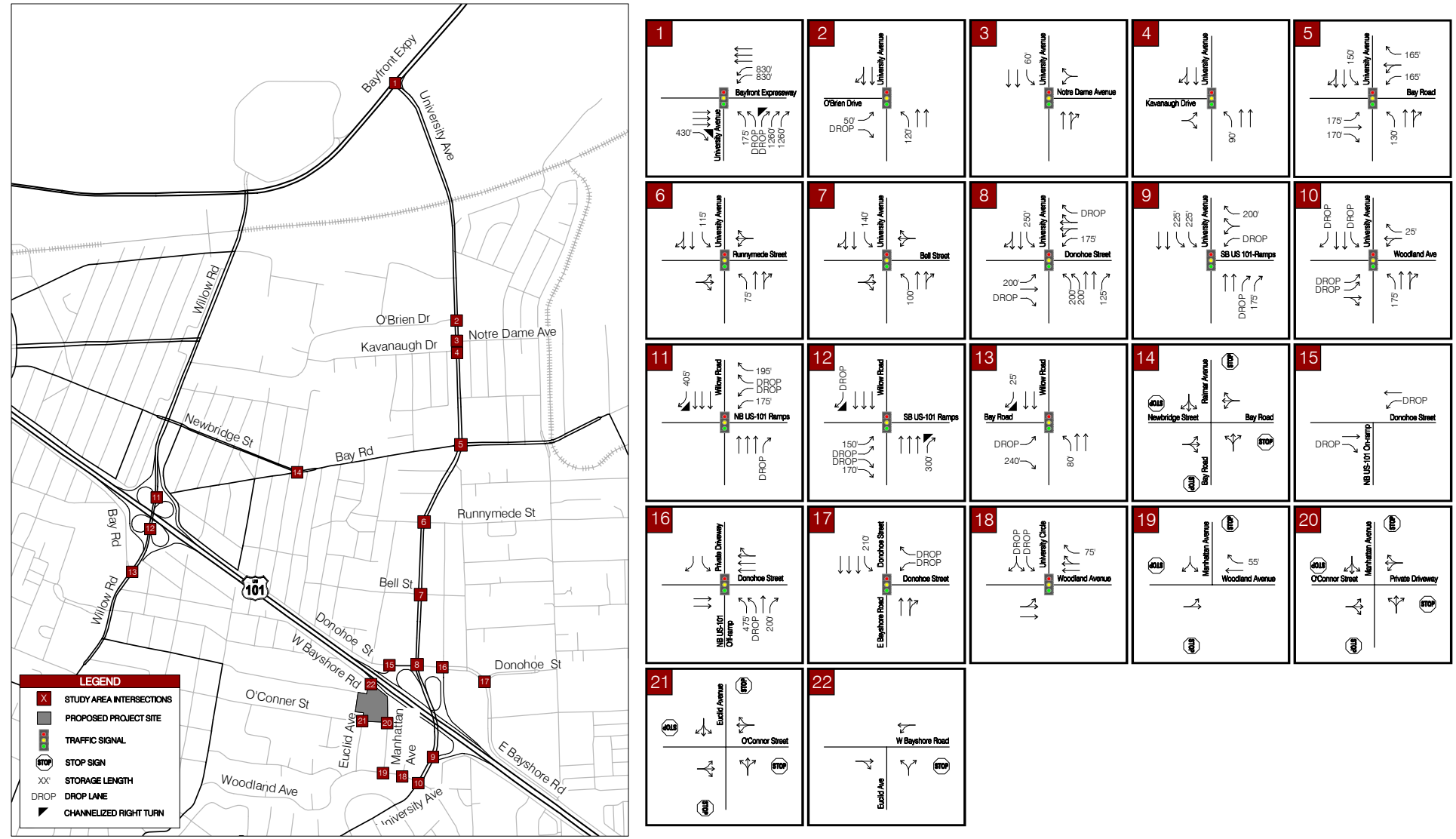
- Operates at **LOS F** during AM peak hour

Donohoe Street/E Bayshore Road (Intersection #17)

- Operates at **LOS F** during PM peak hour

Woodland Avenue/University Circle (Intersection #18)

- Operates at **LOS F** during PM peak hour



Source: Kimley-Horn, 2021

Figure 17-5: Existing Conditions - Lane Geometry and Traffic Controls

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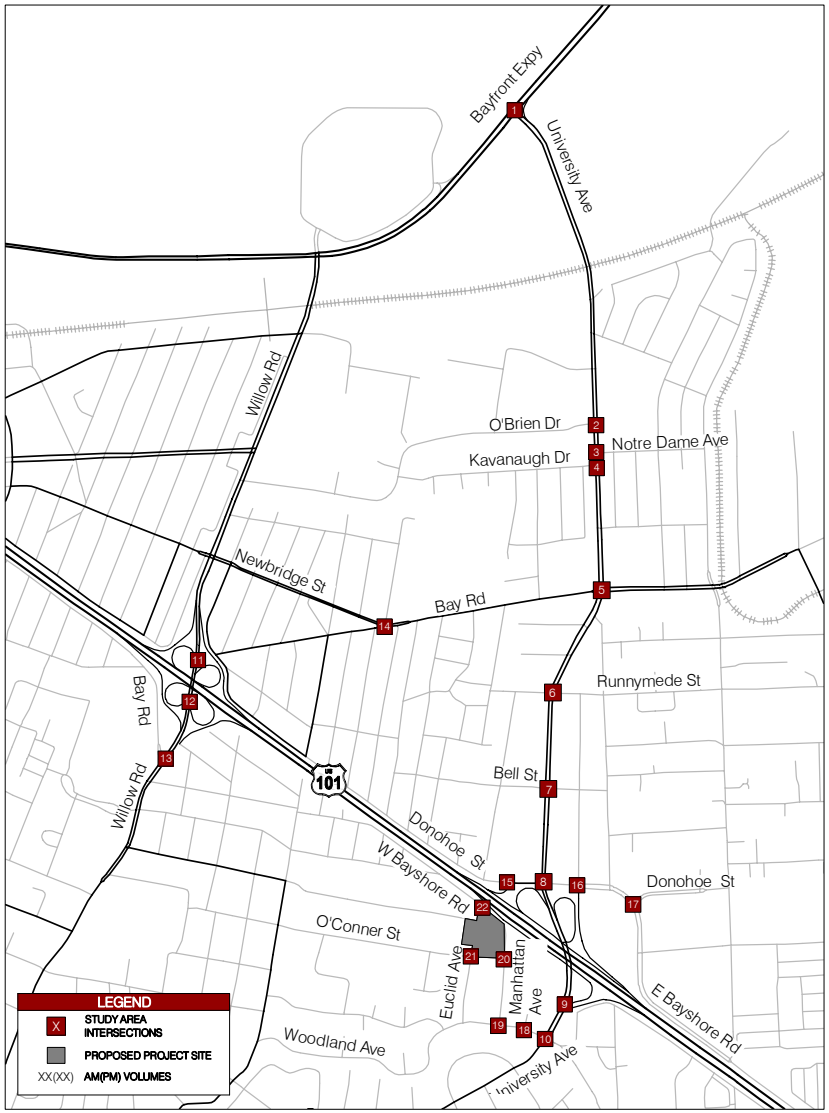

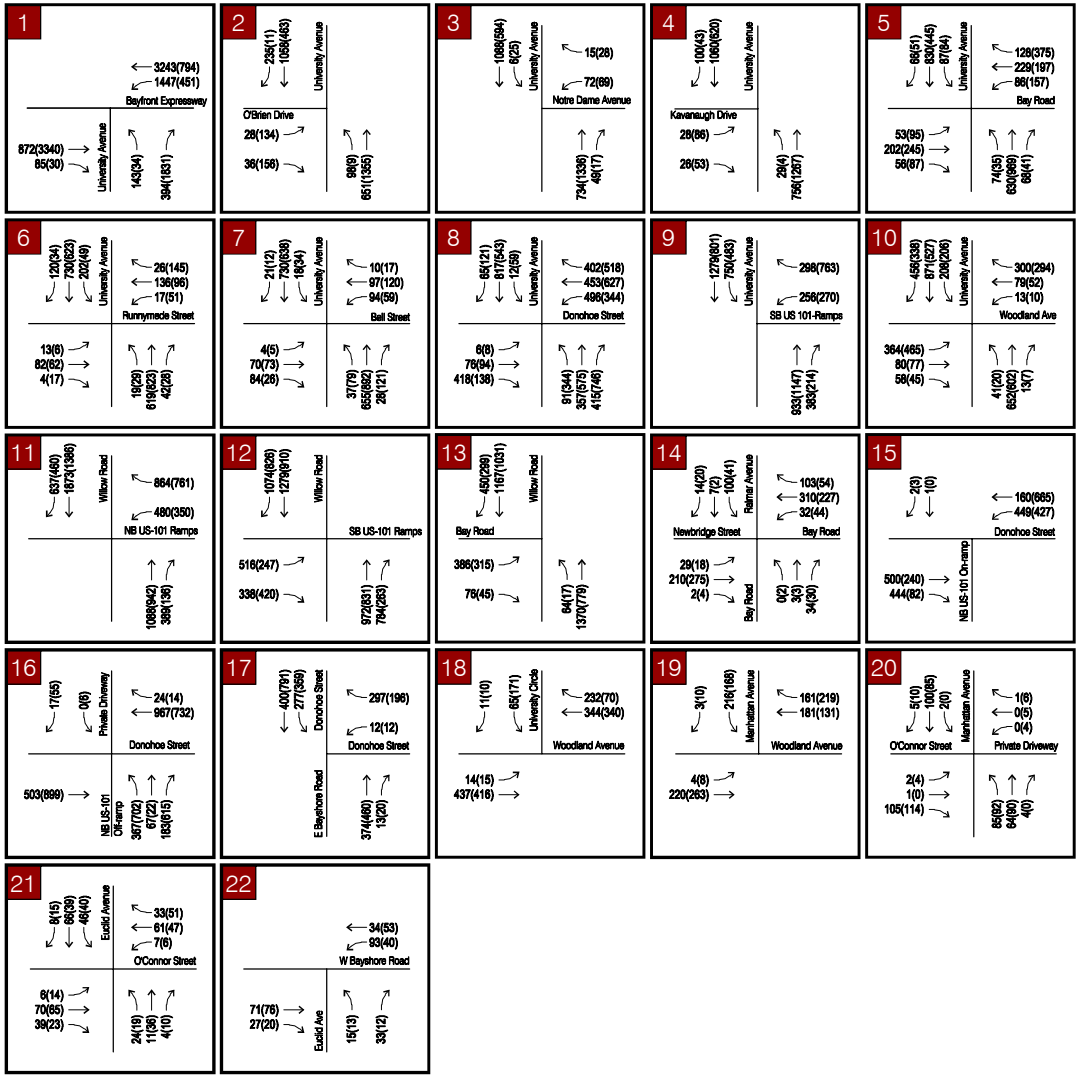

Source: Kimley-Horn, 2021

Figure 17-6: Existing Conditions - Peak Hour Turning Movement Volumes

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Table 17-3: Existing and Existing Plus Project Transportation Delay & LOS

	Intersection	Control Type	Agency	LOS Threshold	Existing				Existing Plus Project									
					AM Peak		PM Peak		AM Peak					PM Peak				
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Increase in Avg. Delay	Increase in Crit. Delay	Increase in V/C	Delay (sec)	LOS	Increase in Avg. Delay	Increase in Crit. Delay	Increase in V/C
1	University Avenue/Bayfront Expressway	Signal	MP	D	20.3	C	**120.1**	**F**	20.3	C	0.0	-	-	**120.4**	**F**	0.3	-	-
2	University Avenue/O'Brien Drive	Signal	EPA	D	8.3	A	10.1	B	8.4	A	0.1	0.1	0.001	10.2	B	0.1	0.0	0.001
3	University Avenue/Notre Dame Avenue	Signal	EPA	D	7.6	A	6.7	A	7.6	A	0.0	0.0	0.000	6.7	A	0.0	0.0	0.002
4	University Avenue/Kavanaugh Drive	Signal	EPA	D	5.3	A	8.6	A	5.4	A	0.1	0.2	0.002	8.6	A	0.0	0.1	0.002
5	University Avenue/Bay Road	Signal	EPA	D	35.9	D	36.3	D	35.9	D	0.0	0.1	0.002	36.4	D	0.1	0.3	0.004
6	University Avenue/Runnymede Street	Signal	EPA	D	11.2	B	15.2	B	11.2	B	0.0	0.1	0.007	15.2	B	0.0	0.0	-0.025
7	University Avenue/Bell Street	Signal	EPA	D	23.7	C	17.2	B	23.7	C	0.0	0.1	0.004	17.2	B	0.0	0.0	0.007
8	University Avenue/Donohoe Street	Signal	EPA	D	**229.5**	**F**	**87.1**	**F**	**318.6**	**F**	**89.1**	-	-	**90.3**	**F**	3.2	-	-
9	University Avenue/SB US-101 Ramps	Signal	EPA	D	**70.0**	**E**	**196.1**	**F**	**81.7**	**F**	**11.7**	-	-	**216.5**	**F**	**20.4**	-	-
10	University Avenue/Woodland Avenue	Signal	EPA	D	39.9	D	**128.6**	**F**	42.6	D	2.7	-	-	**171.8**	**F**	**43.2**	-	-
11	Willow Road/NB US-101 Ramps	Signal	MP	D	41.3	D	**116.3**	**F**	41.2	D	-0.1	-	-	**115.7**	**F**	-0.6	-	-
12	Willow Road/SB US-101 Ramps	Signal	MP	D	8.9	A	14.5	B	8.9	A	0.0	-	-	14.7	B	0.2	-	-
13	Willow Road/Bay Road	Signal	MP	D	26.2	C	22.9	C	26.2	C	0.0	-	-	23.0	C	0.1	-	-
14	Bay Road/Newbridge Street/Ralmar Avenue	AWSC	EPA	D	12.8	B	11.4	B	12.8	B	0.0	-	-	11.4	B	0.0	-	-
15	Donohoe Street/NB US-101 On-ramp	Uncontrolled	EPA	D	**47.7**	**E**	2.9	A	**55.1**	**F**	**7.4**	-	-	2.9	A	0.0	-	-
16	Donohoe Street/NB US-101 Off-ramp	Signal	EPA	D	**262.0**	**F**	32.5	C	**307.8**	**F**	**45.8**	-	-	33.2	C	0.7	-	-
17	Donohoe Street/E Bayshore Road	Signal	EPA	D	31.9	C	**88.5**	**F**	32.0	C	0.1	0.0	0.002	**89.9**	**F**	1.4	2.4	0.003
18	Woodland Avenue/University Circle	Signal	EPA	D	28.1	C	**141.9**	**F**	25.9	C	-2.2	-	-	**214.8**	**F**	**72.9**	-	-
19	Woodland Avenue/Manhattan Avenue	AWSC	EPA	D	10.5	B	10.5	B	11.9	B	1.4	-	-	12.2	B	1.7	-	-
20	O'Connor Street/Manhattan Avenue	AWSC	EPA	D	8.0	A	8.2	A	8.6	A	0.6	-	-	9.2	A	1.0	-	-
21	O'Connor Street/Euclid Avenue	AWSC	EPA	D	8.0	A	7.9	A	8.2	A	0.2	-	-	8.0	A	0.1	-	-
22	W Bayshore Road/Euclid Avenue	SSSC	EPA	D	10.0	B	9.4	A	10.4	B	0.4	-	-	9.7	A	0.3	-	-

Notes:
1. Each study intersection is controlled by a traffic signal, a side-street stop-controlled (SSSC), or an all-way stop-controlled (AWSC).
2. MP = Menlo Park, EPA = East Palo Alto
3. East Palo Alto intersections were analyzed using HCM 2000 methodology. Menlo Park intersections (Intersections 1, 11, 12, and 13) were analyzed using HCM 6 methodology. Intersections 8, 9, 10, 15, 16, an 18 were analyzed using SimTraffic due to close proximity of these intersections.
4. Delay refers to the average control delay for the entire intersection measured in seconds per vehicle. According to HCM methodology, overall LOS is not defined for side street stop-controlled intersections, instead the worst approach control delay is used in seconds.
5. If a specific movement has a delay less than the approach or intersection average, and the trips are increased for this movement, the overall intersection delay may decrease.
6. Intersections that are operating below acceptable levels are shown in BOLD and project-caused deficiencies are shaded in light blue.

Source: Kimley-Horn & Associates, Inc. 2020

17.8.2 Trip Generation Estimates

Trip generation estimates were prepared for weekday AM and PM peak hour traffic conditions (worst case). In determining project trip generation, the magnitude of traffic accessing and departing the project site is estimated for the AM and PM peak hours. Through empirical research, data have been collected that correlate common land uses with their propensity for producing traffic. Thus, for the most common land uses, there are standard trip generation rates that can be applied to help estimate the traffic increases that would result from a new development. Project trip generation was estimated by applying to the proposed size and uses of the development the appropriate trip generation rates published in the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017)*. Internal capture reductions were also calculated to account for the internal trips between the residential and retail uses. It should be noted that the project is proposing to implement a Transportation Demand Management (TDM) program to further reduce the vehicle trips. However, since this TDM program has not been finalized, these trip reductions have not been included in the supplemental traffic analysis.

As shown in Table 17-4: Proposed Project Trip Generation, the proposed project at buildout would generate 3,926 daily trips, with 221 trips occurring during the AM peak hour and 303 trips occurring during the PM peak hour. The existing site is estimated to have generated 1,178 daily trips, with 58 occurring during the AM peak hour and 33 trips occurring during the PM peak hour. Overall, the site would generate 2,748 net new daily trips, with 146 occurring during the AM peak hour and 213 during the PM peak hour.

Table 17-4: Proposed Project Trip Generation

Land Use	Size	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Proposed Use								
Multifamily Housing (Mid-Rise)[2]	605 DU	3296	57	161	218	162	104	266
Retail[3]	5,000 KSF	786	3	2	5	28	31	59
Project Total		**4,082**	**60**	**163**	**223**	**190**	**135**	**325**
Internal Capture[4]		-156	-1	-1	-2	-11	-11	-22
Total External Project Trips		**3,926**	**59**	**162**	**221**	**179**	**124**	**303**
Existing Use								
Multifamily Housing (Low-Rise)[1]	161 DU	-1,178	-17	-58	-75	-57	-33	-90
Net New External Project Trips		**2,748**	**42**	**104**	**146**	**122**	**91**	**213**

Notes:
DU = Dwelling Units, KSF = 1,000 square feet
1. Multifamily Housing (Low-Rise) – ITE Code 220
Weekday Daily: T = 7.56(X) – 40.86
AM Peak: AM Peak: Ln(T) = 0.95Ln(X) - 0.51 (23% in, 77% out)
PM Peak: Ln(T) = 0.89Ln(X) - 0.02 (63% in, 37% out)
2. Multifamily Housing (Mid-Rise) – ITE Code 221
Weekday Daily: T = 5.45(X) - 1.75
AM Peak: Average rate of 0.36 (26% in, 74% out)
PM Peak: Average rate of 0.44 (61% in, 39% out)
3. Shopping Center – ITE Code 820
Weekday Daily: Ln(T) = 0.68Ln(X) + 5.57
AM Peak: Average rate of 0.94 (62% in, 38% out)

PM Peak: Ln(T) = 0.74Ln(X) + 2.89 (48% in, 52% out)

4. Internal capture for AM and PM peak hours were calculated based on methodology in the ITE Trip Generation Handbook, 3rd Edition. Weekday daily used the average percentages of the AM and PM peak hours.

Source: Kimley-Horn & Associates, 2020

17.8.3 Trip Distribution and Assignment

Project trip distribution estimates the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections. The directional distribution of project-generated traffic to and from the site was developed based on residential trips distribution presented in the Ravenswood/4 Corners TOD Specific Plan DEIR (2012). Figure 17-3: Study Area and Project Trip Distribution shows the distribution of project trips throughout the study area. The peak hour trips generated by the proposed uses are assigned to the roadway system at each study location.

Project trip assignments to the network are shown in Figure 17-7: Project Trip Assignment Peak Hour Volumes. Project trips added to existing volumes are summarized in Figure 17-8: Existing Plus Project Peak Hour Turning Movement Volumes.

17.8.4 Existing Plus Project

As shown in Table 17-4: Existing and Existing Plus Project Transportation Delay & LOS, all study intersections operate at acceptable levels of service under the Existing Plus Project Conditions during the weekday AM and PM peak hours with the exception of:

University Avenue/Bayfront Expressway (Intersection #1)

- Operates at **LOS F** during PM peak hour

University Avenue/Donohoe Street (Intersection #8)

- Operates at **LOS F** during AM and PM peak hours

University Avenue/SB US-101 Ramps (Intersection #9)

- Operates at **LOS F** during AM and PM peak hours

University Avenue/Woodland Avenue (Intersection #10)

- Operates at **LOS F** during PM peak hour

Willow Road/NB US-101 Ramps (Intersection #11)

- Operates at **LOS F** during PM peak hour

Donohoe Street/NB US 101 On-Ramp (Intersection #15)

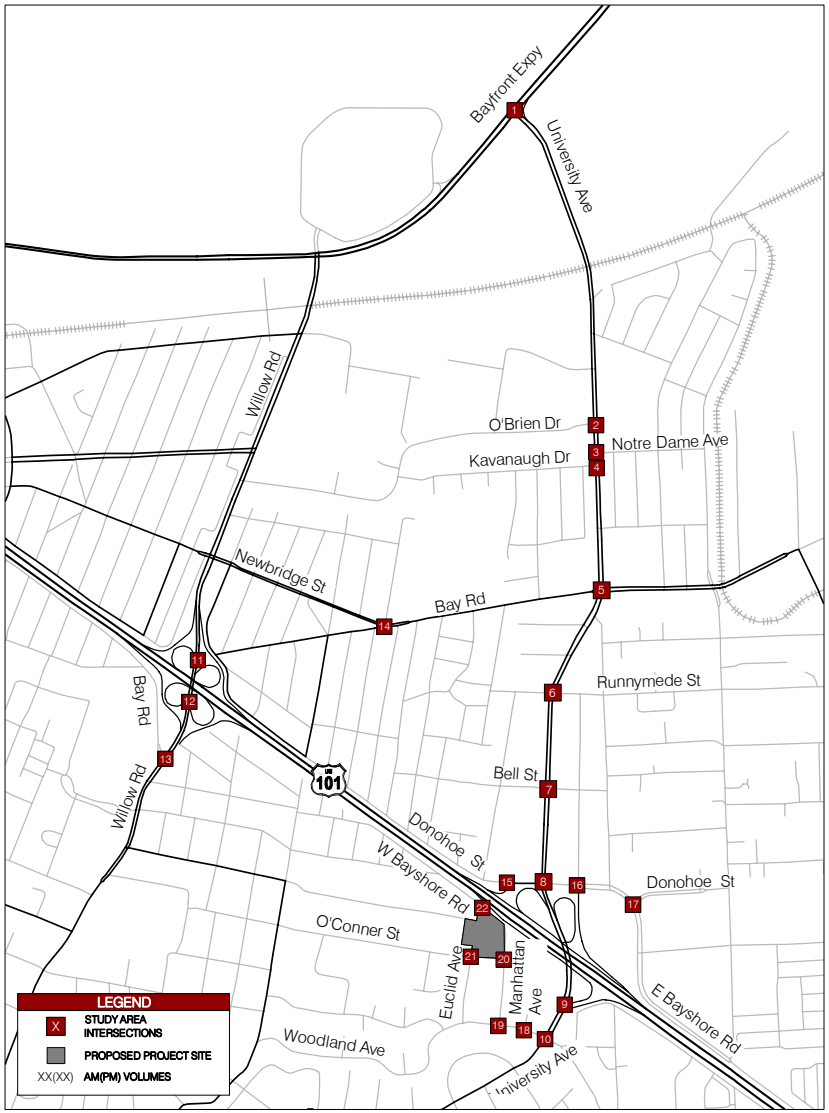
- Operates at **LOS F** during AM peak hour

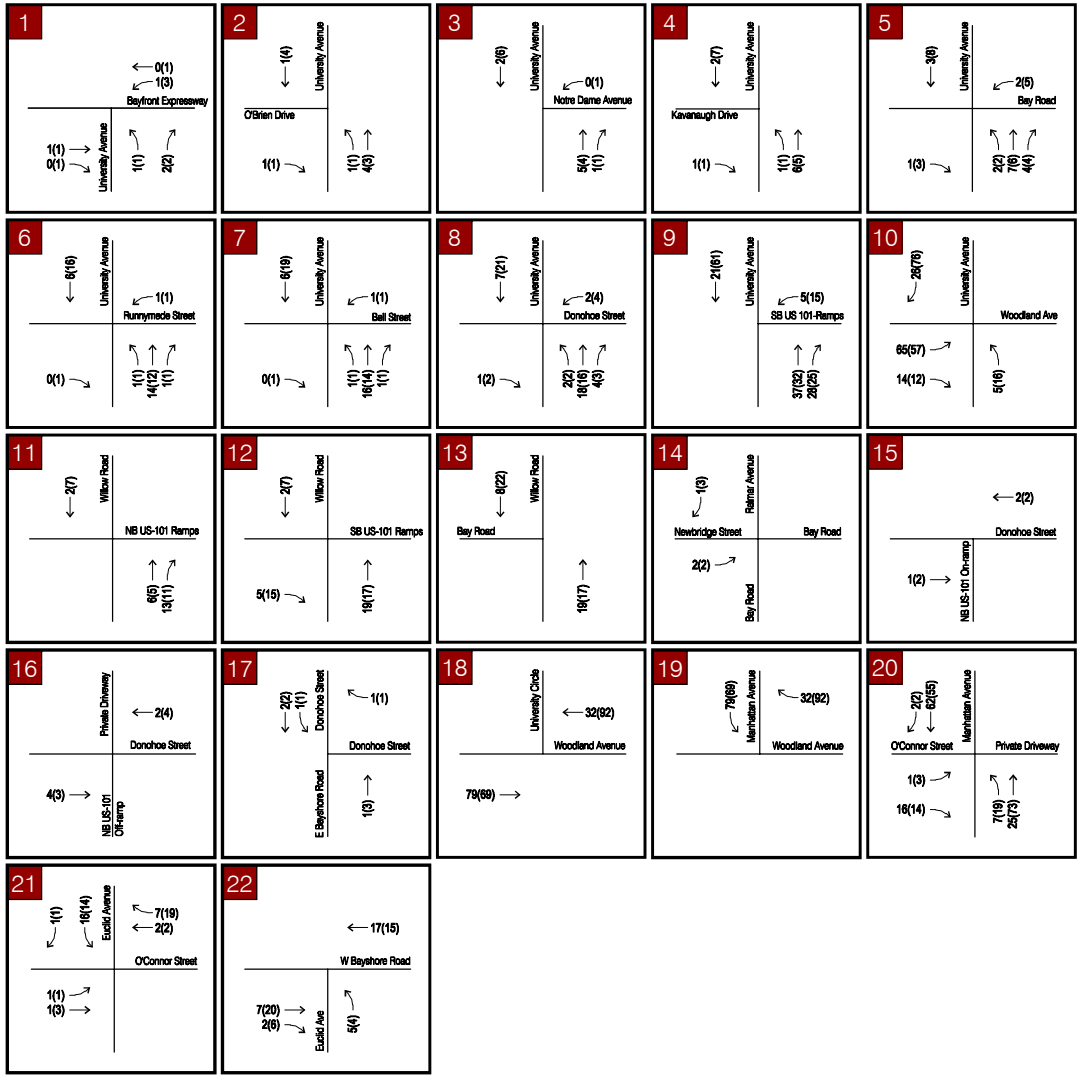
Donohoe Street/NB US 101 Off-Ramp (Intersection #16)

- Operates at **LOS F** during AM peak hour

Donohoe Street/E Bayshore Road (Intersection #17)

- Operates at **LOS F** during PM peak hour





Source: Kimley-Horn, 2021

Figure 17-7: Project Trip Assignment Peak Hour Volumes

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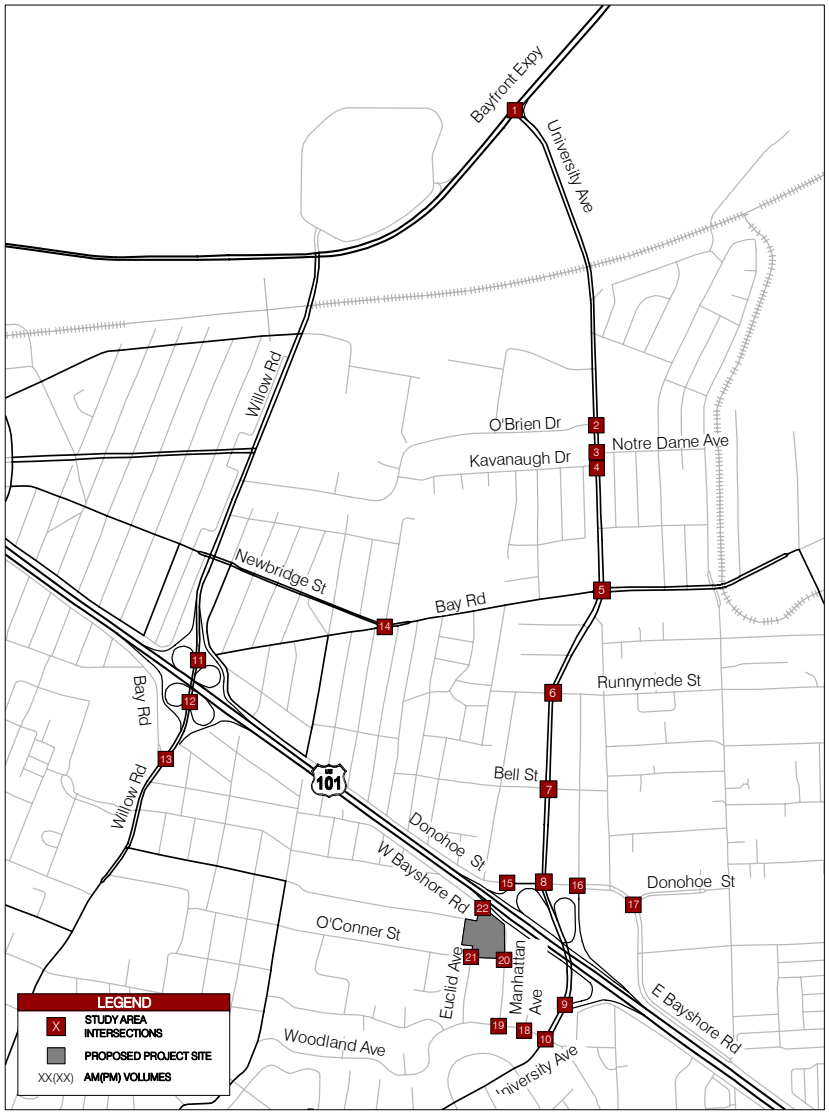

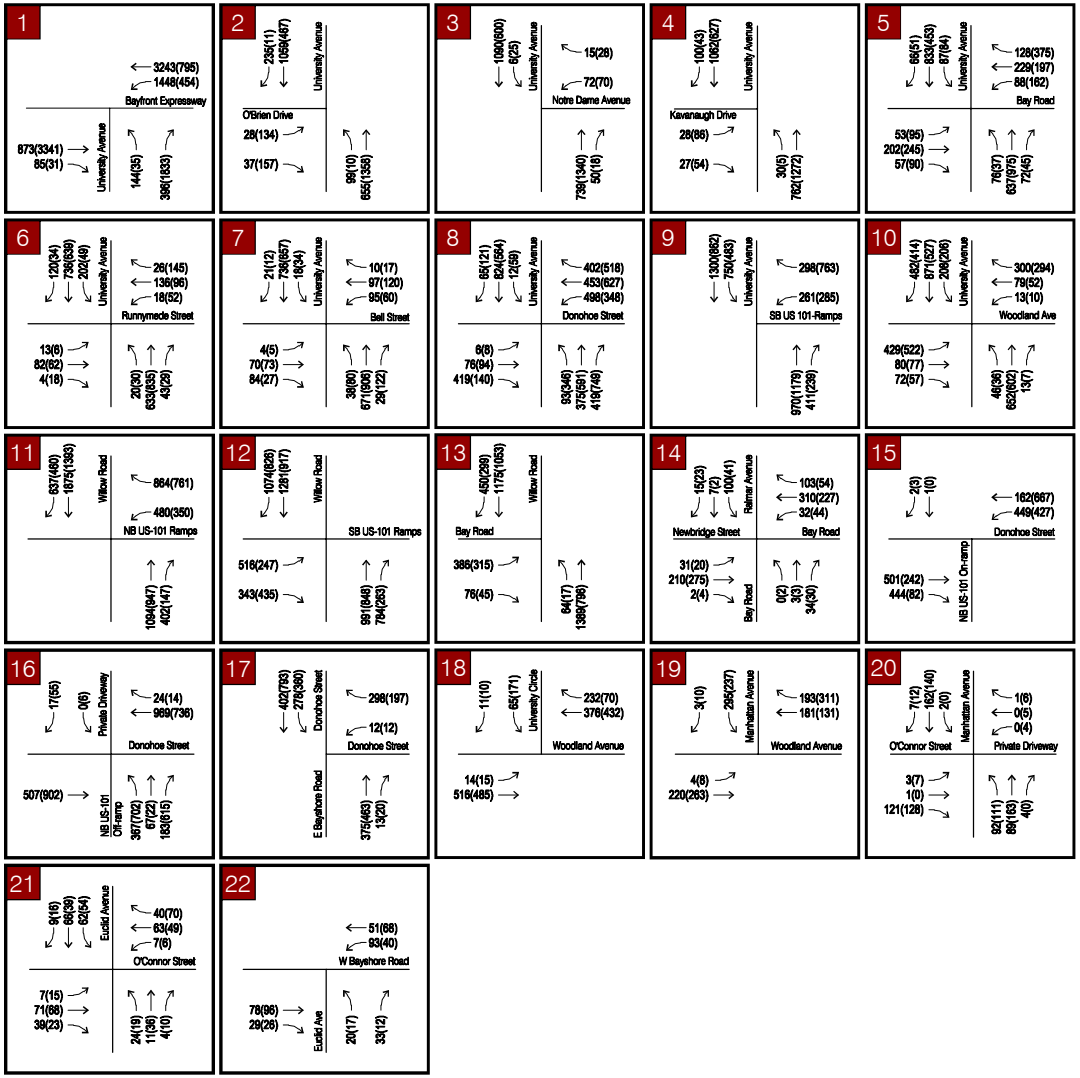

Source: Kimley-Horn, 2021

Figure 17-8: Existing Plus Project Peak Hour Turning Movement Volumes

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Woodland Avenue/University Circle (Intersection #18)

- Operates at **LOS F** during PM peak hour

The following discusses the intersections where the project causes deficiencies, as highlighted in light blue in Table 17-3: Existing and Existing Plus Project Transportation Delay & LOS.

University Avenue/Donohoe Street (Intersection #8)

In the Existing Plus Project conditions, the intersection operates at an unacceptable LOS F with 318.6 seconds of delay in the AM peak hour. Under the base condition, the intersection operates at an unacceptable LOS F with 229.5 seconds of delay. The project increases the average control delay by 89.2 seconds, greater than 4 seconds, which results in a project deficiency.

University Avenue/SB US-101 Ramps (Intersection #9)

In the Existing Plus Project conditions, the intersection operates at an unacceptable LOS F with 81.7 seconds of delay in the AM peak hour. Under the base condition, the intersection operates at an unacceptable LOS E with 70.0 seconds of delay. The project increases the average control delay by 11.7 seconds, greater than 4 seconds, which results in a project deficiency.

In addition, during the PM peak hour, the intersection operates at an unacceptable LOS F with 216.5 seconds of delay. Under the based conditions, the intersection operates at an unacceptable LOS F with 196.1 seconds of delay. The project increases the average control delay by 20.4 seconds, greater than 4 seconds, which results in a project deficiency.

University Avenue/Woodland Avenue (Intersection #10)

In the Existing Plus Project conditions, the intersection operates at an unacceptable LOS F with 171.8 seconds of delay in the PM peak hour. Under the base condition, the intersection operates at an unacceptable LOS F with 128.6 seconds of delay. The project increases the average control delay by 43.2 seconds, greater than 4 seconds, which results in a project deficiency.

Donohoe Street/NB US-101 On-Ramp (Intersection #15)

In the Existing Plus Project conditions, the intersection operates at an unacceptable LOS F with 55.1 seconds of delay in the AM peak hour. Under the base condition, the intersection operates at an unacceptable LOS E with 47.7 seconds of delay. The project increases the average control delay by 7.4 seconds, greater than 4 seconds, which results in a project deficiency.

Donohoe Street/NB US-101 Off-Ramp (Intersection #16)

In the Existing Plus Project conditions, the intersection operates at an unacceptable LOS F with 307.8 seconds of delay in the AM peak hour. Under the base condition, the intersection operates at an unacceptable LOS F with 262.0 seconds of delay. The project increases the average control delay by 45.8 seconds, greater than 4 seconds, which results in a project deficiency.

Woodland Avenue/University Circle (Intersection #18)

In the Existing Plus Project conditions, the intersection operates at an unacceptable LOS F with 214.8 seconds of delay in the PM peak hour. Under the base condition, the intersection operates at an unacceptable LOS F with 141.9 seconds of delay. The project increases the average control delay by 72.9 seconds, greater than 4 seconds, which results in a project deficiency.

17.8.5 Cumulative Analysis

Cumulative conditions were established as occurring in year 2040. Cumulative volumes were developed by growing existing traffic volumes using a 1.2 percent annual growth rate for major roadways which include University Avenue, Willow Road, East Bayshore Road, Bayfront Expressway (SR-84), and Donohoe Street. In addition, traffic from nearby approved, pending and reasonably foreseeable projects listed in Table 17-5: Approved and Pending Projects Assumed for Background Growth were added to the network. It should be noted that projects listed in Table 17-6: Approved and Pending Projects Not Included in Analysis were considered, but not included in the analysis because those project either generate a nominal number of peak hour trips that could be accounted by the annual growth rate, or there was sufficient uncertainty of the project being built by the Cumulative Conditions analysis year.

Table 17-5: Approved and Pending Projects Assumed for Background Growth

City	Project	Land Use
East Palo Alto	1039 Garden Street (KIPP School)	650 student high school
	2535 Pulgas Avenue	100,000 square feet (sf) Office
	2519 Pulgas Avenue	65,000 sf Office
	2194 University Avenue	2,500 sf Gas Station
	2050 University Avenue	180,000 sf Office
	660 Donohoe Street	200,000 sf Office
	630 Donohoe Street	105,000 sf Office
	2331 University Avenue	33 Multi-Family dwelling units (du)
	2111 University Avenue	233,840 sf Office
	1201 Runnymede Street	37 Multi-Family du
Menlo Park	300 Constitution Drive	962,400 sf Office, 200 room Hotel
	Menlo Gateway (Constitution Site)	494,726 sf, 7,420 sf Retail
	162-164 Jefferson Drive	249,500 sf Office
	115 Independence (Menlo Portal)	320 Multi-Family du, 33,100 sf Office, 1,608 sf Commercial
	123 Independence Drive	67 Townhomes, 316 Multi-Family du, 88,750 sf Office
	111 Independence Drive	105 Multi-Family du
	165 Jefferson Dr (Menlo Flats)	158 Multi-Family du, 14,400 sf Commercial
	141 Jefferson Dr (Menlo Uptown)	483 Multi-Family du, 2,000 sf Commercial

City	Project	Land Use
	3723 Haven Avenue	167 room Hotel
	1350-1390 Willow Road (Willow Village)	440,000 sf Retail, 1,500 du, 220 room hotel, 1,7500,000 sf Office
	1105-1165 O'Brien Drive	120,000 sf Office
	1350 Adams Court	260,000 sf Office

Table 17-6: Approved and Pending Projects Not Included in Analysis

City	Project	Reason
East Palo Alto	891 Tea Court	Project generates less than 10 peak hour trips
	923 Runnymede	Project generates less than 10 peak hour trips
	1001 Beech Street	Project generates less than 10 peak hour trips
	717 Donohoe Street	Project generates less than 10 peak hour trips
	961 Beech Street	Project generates less than 10 peak hour trips
	760 Weeks Street	Project generates less than 10 peak hour trips
	1062 Runnymede Street	Project generates less than 10 peak hour trips
	990 Garden Street	Project generates less than 10 peak hour trips
	2207 Lincoln	Project generates less than 10 peak hour trips
	812 Green Street	Project generates less than 10 peak hour trips
	2020 Bay Road	Uncertainty of project being built by Cumulative Conditions
	1990 Bay Road	Uncertainty of project being built by Cumulative Conditions
	1675 Bay Road	Uncertainty of project being built by Cumulative Conditions
	2398 Bay Road	Project on hold
	1700 Bayshore Road	Uncertainty of project being built by Cumulative Conditions

Cumulative conditions also assumed roadway improvements that are anticipated to be completed by 2040. The cumulative conditions assumed the following improvements:

- University Avenue/Bay Road (Intersection #5): Intersection improvements which consist of adding an exclusive northbound right-turn lane and adding second northbound, southbound, and westbound left-turn lanes
- University Avenue/Donohoe Street (Intersection #8): Intersection improvement to add an exclusive southbound right-turn lane on University Avenue
- Donohoe Street/US-101 NB No-Ramps (Intersection #15): The 2111 University Avenue development proposes to signalize the intersection.

Cumulative conditions lane geometry for study intersections are shown in Figure 17-9: Cumulative Conditions Lane Geometry and Traffic Control. Cumulative conditions traffic volumes at study intersections are shown in Figure 17-10: Cumulative Conditions Peak Hour Turning Movement Volumes.

Source: Kimley-Horn, 2021

Figure 17-9: Cumulative Conditions Lane Geometry and Traffic Control

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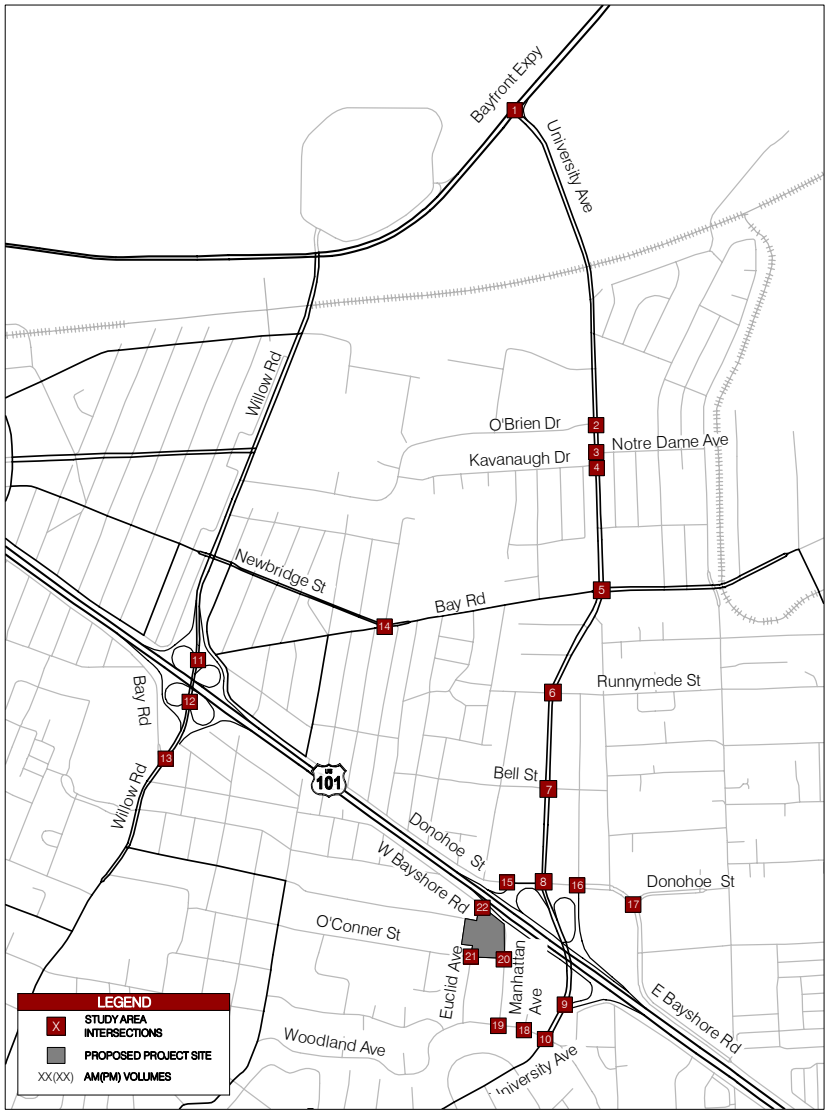

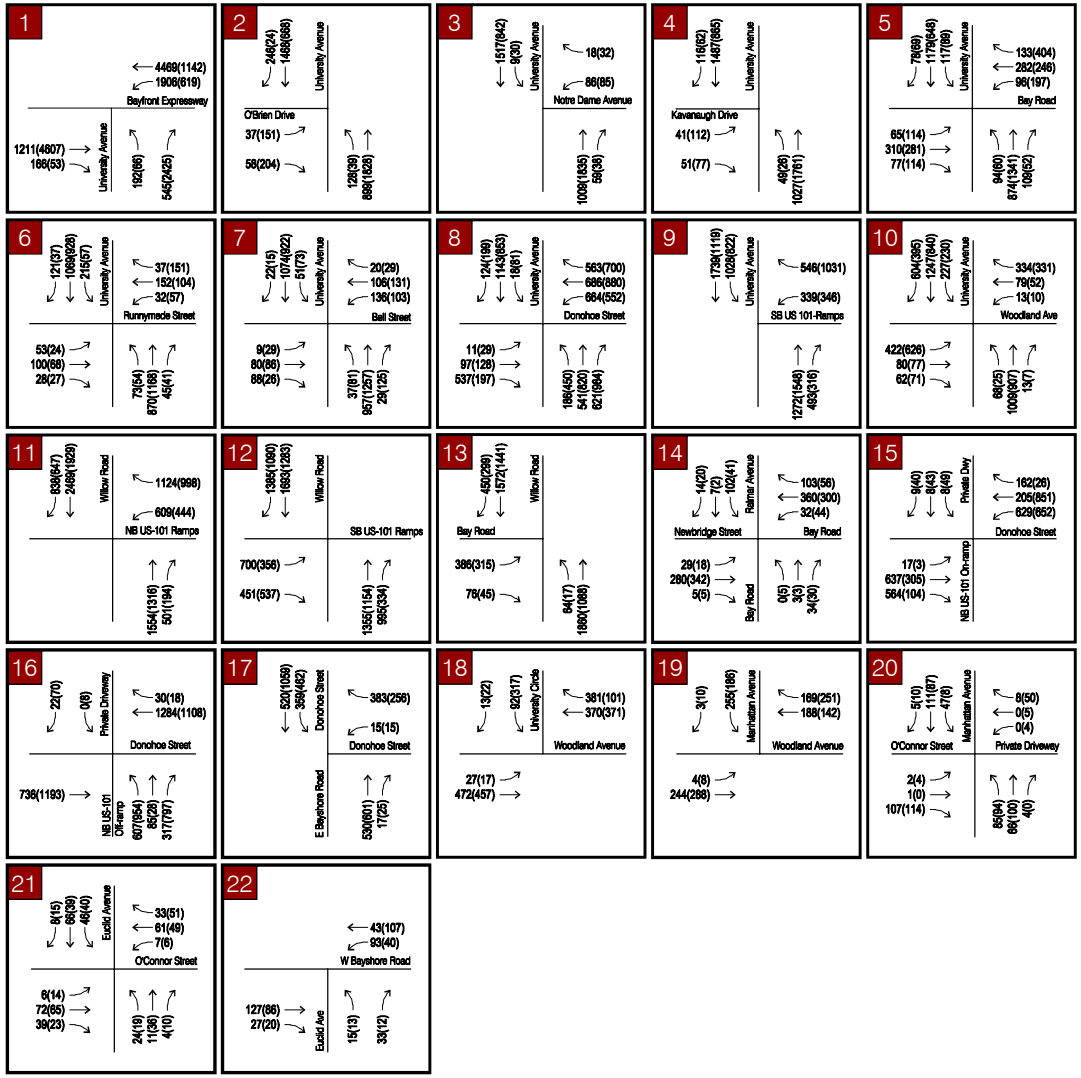

Source: Kimley-Horn, 2021

Figure 17-10: Cumulative Conditions Peak Hour Turning Movement Volumes

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As shown in Table 17-7: Cumulative and Cumulative Plus Project Transportation Delay & LOS, all study intersections operate at acceptable levels of service under the Cumulative Conditions during the weekday AM and PM peak hours with the exception of:

University Avenue/Bayfront Expressway (Intersection #1)

- Operates at **LOS F** during PM peak hour

University Avenue/Donohoe Street (Intersection #8)

- Operates at **LOS F** during AM and PM peak hours

University Avenue/SB US-101 Ramps (Intersection #9)

- Operates at **LOS F** during AM and PM peak hours

University Avenue/Woodland Avenue (Intersection #10)

- Operates at **LOS F** during AM and PM peak hours

Donohoe Street/NB US 101 Off-Ramp (Intersection #16)

- Operates at **LOS F** during AM and PM peak hours

Donohoe Street/E Bayshore Road (Intersection #17)

- Operates at **LOS F** during PM peak hour

Woodland Avenue/University Circle (Intersection #18)

- Operates at **LOS F** during PM peak hour

17.8.6 Cumulative Plus Project Analysis

Cumulative Plus Project volumes were evaluated at study intersection and are shown in Figure 17-11: Cumulative Plus Project Peak Hour Turning Movement Volumes.

As shown in Table 17-7: Cumulative and Cumulative Plus Project Transportation Delay & LOS, all study intersections operate at acceptable levels of service under the Cumulative Plus Project Conditions during the weekday AM and PM peak hours with the exception of:

University Avenue/Bayfront Expressway (Intersection #1)

- Operates at **LOS F** during PM peak hour

University Avenue/Donohoe Street (Intersection #8)

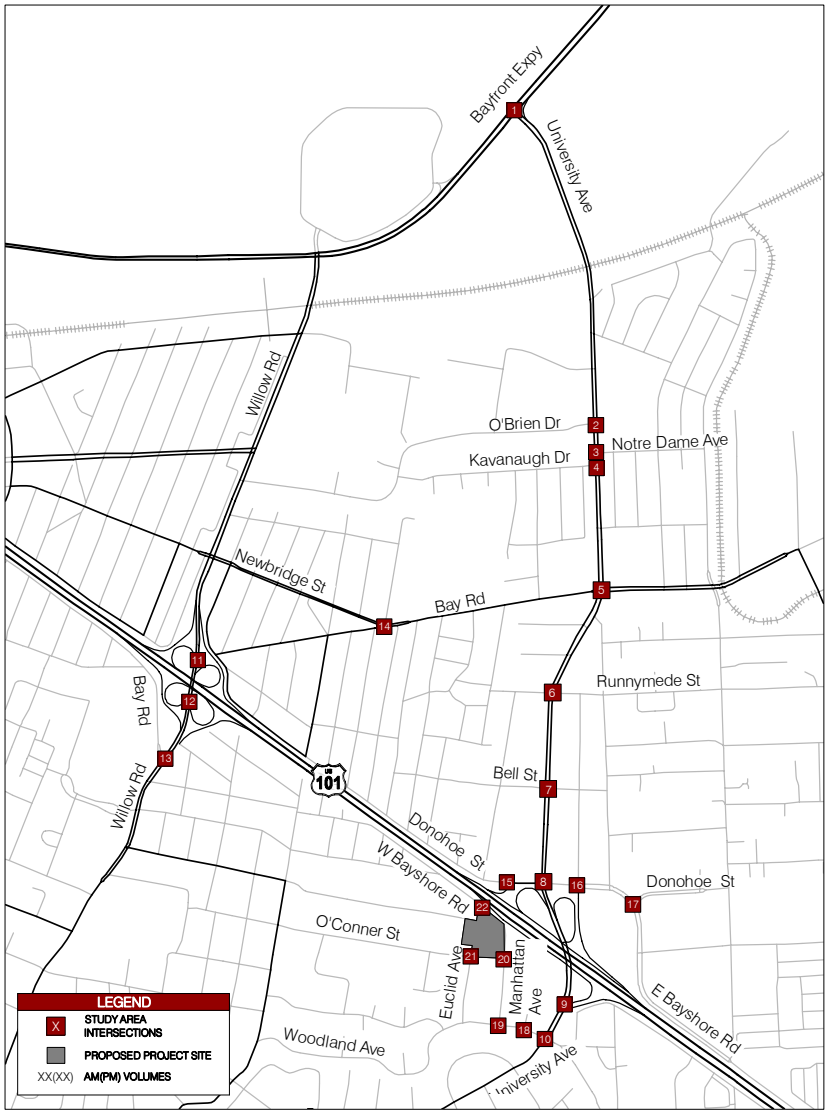
- Operates at **LOS F** during AM and PM peak hours

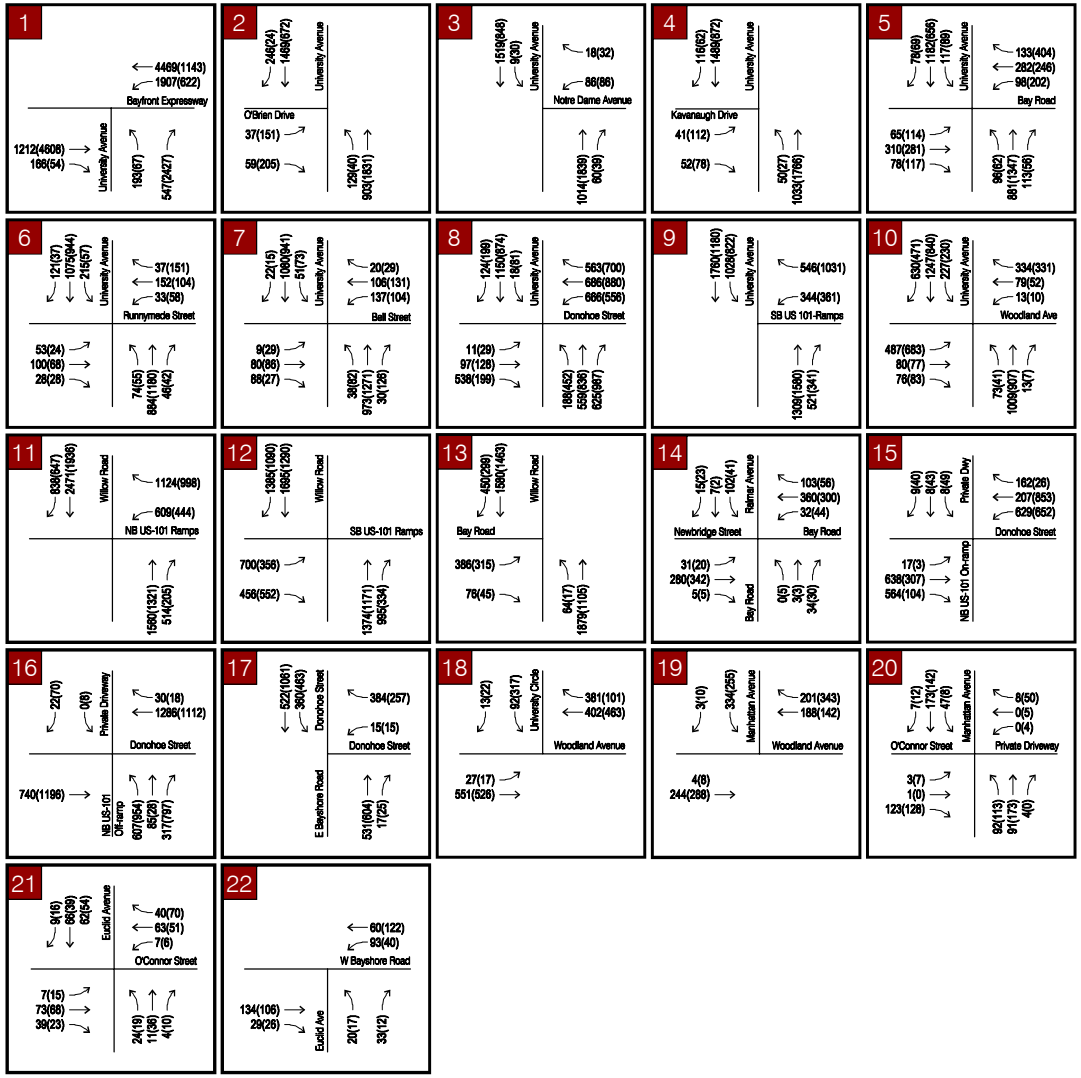
University Avenue/SB US-101 Ramps (Intersection #9)

- Operates at **LOS F** during AM and PM peak hours

University Avenue/Woodland Avenue (Intersection #10)

- Operates at **LOS F** during AM and PM peak hours





Source: Kimley-Horn, 2021

Figure 17-11: Cumulative Plus Project Peak Hour Turning Movement Volumes

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Donohoe Street/NB US 101 Off-Ramp (Intersection #16)

- Operates at **LOS F** during AM and PM peak hours

Donohoe Street/E Bayshore Road (Intersection #17)

- Operates at **LOS F** during PM peak hour

Woodland Avenue/University Circle (Intersection #18)

- Operates at **LOS F** during PM peak hour

The following discusses the intersections where the project causes deficiencies, as highlighted in light blue in Table 17-7: Cumulative and Cumulative Plus Project Transportation Delay & LOS.

Table 17-7: Cumulative and Cumulative Plus Project Transportation Delay & LOS

	Intersection	Control Type	Agency	LOS Threshold	Cumulative				Cumulative Plus Project									
					AM Peak		PM Peak		AM Peak					PM Peak				
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Increase in Avg. Delay	Increase in Crit. Delay	Increase in V/C	Delay (sec)	LOS	Increase in Avg. Delay	Increase in Crit. Delay	Increase in V/C
1	University Avenue/Bayfront Expressway	Signal	MP	D	37.8	D	**266.8**	**F**	37.9	D	0.1	-	-	**267.0**	**F**	0.2	-	-
2	University Avenue/O'Brien Drive	Signal	EPA	D	10.2	B	11.3	B	10.2	B	0.0	0.1	0.001	11.3	B	0.0	0.1	0.001
3	University Avenue/Notre Dame Avenue	Signal	EPA	D	7.5	A	8.0	A	7.5	A	0.0	0.0	0.001	8.1	A	0.1	0.1	0.003
4	University Avenue/Kavanaugh Drive	Signal	EPA	D	7.9	A	10.3	B	8.0	A	0.1	0.2	0.002	10.3	B	0.0	0.0	0.002
5	University Avenue/Bay Road	Signal	EPA	D	30.7	C	33.8	C	30.7	C	0.0	0.1	0.001	33.8	C	0.0	0.1	0.002
6	University Avenue/Runnymede Street	Signal	EPA	D	13.9	B	14.7	B	14.0	B	0.1	0.8	0.011	14.7	B	0.0	0.1	0.006
7	University Avenue/Bell Street	Signal	EPA	D	26.8	C	22.6	C	27.0	C	0.2	0.2	0.004	22.8	C	0.2	0.3	0.007
8	University Avenue/Donohoe Street	Signal	EPA	D	**320.8**	**F**	**98.8**	**F**	**336.0**	**F**	**15.2**	-	-	**106.1**	**F**	**7.3**	-	-
9	University Avenue/SB US-101 Ramps	Signal	EPA	D	**160.0**	**F**	**258.2**	**F**	**189.8**	**F**	**29.8**	-	-	**359.3**	**F**	**101.1**	-	-
10	University Avenue/Woodland Avenue	Signal	EPA	D	**105.2**	**F**	**316.8**	**F**	**136.0**	**F**	**30.8**	-	-	**296.4**	**F**	-20.4	-	-
11	Willow Road/NB US-101 Ramps	Signal	MP	D	30.8	C	28.1	C	30.8	C	0.0	-	-	28.1	C	0.0	-	-
12	Willow Road/SB US-101 Ramps	Signal	MP	D	18.0	B	17.4	B	18.1	B	0.1	-	-	17.6	B	0.2	-	-
13	Willow Road/Bay Road	Signal	MP	D	33.8	C	26.4	C	34.4	C	0.6	-	-	26.8	C	0.4	-	-
14	Bay Road/Newbridge Street/Ralmar Avenue	AWSC	EPA	D	15.5	C	14.2	B	15.6	C	0.1	-	-	14.3	B	0.1	-	-
15	Donohoe Street/NB US-101 On-ramp	Uncontrolled	EPA	D	53.0	D	25.3	C	53.5	D	0.5	-	-	24.7	C	-0.6	-	-
16	Donohoe Street/NB US-101 Off-ramp	Signal	EPA	D	**344.0**	**F**	**250.7**	**F**	**351.4**	**F**	**7.4**	-	-	**255.5**	**F**	**4.8**	-	-
17	Donohoe Street/E Bayshore Road	Signal	EPA	D	36.1	D	**153.7**	**F**	36.2	D	0.1	0.0	0.002	**155.2**	**F**	1.5	2.5	0.003
18	Woodland Avenue/University Circle	Signal	EPA	D	30.9	C	**258.0**	**F**	48.5	D	17.6	-	-	**284.1**	**F**	**26.1**	-	-
19	Woodland Avenue/Manhattan Avenue	AWSC	EPA	D	11.4	B	11.2	B	13.3	B	1.9	-	-	13.4	B	2.2	-	-
20	O'Connor Street/Manhattan Avenue	AWSC	EPA	D	8.3	A	8.4	A	9.0	A	0.7	-	-	9.5	A	1.1	-	-
21	O'Connor Street/Euclid Avenue	AWSC	EPA	D	8.1	A	7.9	A	8.2	A	0.1	-	-	8.0	A	0.1	-	-
22	W Bayshore Road/Euclid Avenue	SSSC	EPA	D	3.7	A	1.9	A	3.6	A	-0.1	-	-	1.8	A	-0.1	-	-

Notes:
Each study intersection is controlled by a traffic signal, a side-street stop-controlled (SSSC), or an all-way stop-controlled (AWSC).
MP = Menlo Park, EPA = East Palo Alto
East Palo Alto intersection were analyzed using HCM 2000 methodology. Menlo Park intersection (Intersection 1, 11, 12, and 13) were analyzed using HCM 6 methodology. Intersection 8, 9, 10, 15, 16, an 18 were analyzed using SimTraffic due to close proximity of these intersection.
Delay refers to the average control delay for the entire intersection measured in seconds per vehicle. According to HCM methodology, overall LOS is not defined for side street stop-controlled intersections, instead the worst approach control delay is used in seconds.
If a specific movement has a delay less than the approach or intersection average, and the trips are increased for this movement, the overall intersection delay is decreased.
Intersections that are operating below acceptable levels are shown in BOLD and project-cause deficiencies are shaded light blue.
Source: Kimley-Horn & Associates, Inc. 2020

University Avenue/Donohoe Street (Intersection #8)

In the Cumulative Plus Project conditions, the intersection operates at an unacceptable LOS F with 336.0 seconds of delay in the AM peak hour. Under the base condition, the intersection operates at an unacceptable LOS F with 320.8 seconds of delay. The project increases the average control delay by 15.2 seconds, greater than 4 seconds, which results in a project deficiency.

In addition, during the PM peak hour, the intersection operates at an unacceptable LOS F with 106.1 seconds of delay. Under the base conditions, the intersection operates at an unacceptable LOS F with 98.8 seconds of delay. The project increases the average control delay by 7.3 seconds, greater than 4 seconds, which results in a project deficiency.

University Avenue/SB US-101 Ramps (Intersection #9)

In the Cumulative Plus Project conditions, the intersection operates at an unacceptable LOS F with 189.8 seconds of delay in the AM peak hour. Under the base condition, the intersection operates at an unacceptable LOS F with 160.0 seconds of delay. The project increases the average control delay by 29.8 seconds, greater than 4 seconds, which results in a project deficiency.

In addition, during the PM peak hour, the intersection operates at an unacceptable LOS F with 359.3 seconds of delay. Under the base conditions, the intersection operates at an unacceptable LOS F with 258.2 seconds of delay. The project increases the average control delay by 101.1 seconds, greater than 4 seconds, which results in a project deficiency.

University Avenue/Donohoe Street (Intersection #10)

In the Cumulative Plus Project conditions, the intersection operates at an unacceptable LOS F with 136.0 seconds of delay in the AM peak hour. Under the base condition, the intersection operates at an unacceptable LOS F with 105.2 seconds of delay. The project increases the average control delay by 30.8 seconds, greater than 4 seconds, which results in a project deficiency.

Donohoe Street/NB US-101 Off-Ramp (Intersection #16)

In the Cumulative Plus Project conditions, the intersection operates at an unacceptable LOS F with 351.4 seconds of delay in the AM peak hour. Under the base condition, the intersection operates at an unacceptable LOS F with 344.0 seconds of delay. The project increases the average control delay by 7.4 seconds, greater than 4 seconds, which results in a project deficiency.

In addition, during the PM peak hour, the intersection operates at an unacceptable LOS F with 255.5 seconds of delay. Under the base conditions, the intersection operates at an unacceptable LOS F with 250.7 seconds of delay. The project increases the average control delay by 4.8 seconds, greater than 4 seconds, which results in a project deficiency.

Donohoe Street/University Circle (Intersection #18)

In the Cumulative Plus Project conditions, the intersection operates at an unacceptable LOS F with 284.1 seconds of delay in the PM peak hour. Under the base condition, the intersection operates at an unacceptable LOS F with 258.0 seconds of delay. The project increases the average control delay by 26.1 seconds, greater than 4 seconds, which results in a project deficiency.

17.8.7 Recommended Roadway Improvements

Existing Plus Project

Based on the level of service analysis, the project would result in project-caused (or exacerbated) deficiencies at the following study intersections during the Existing Plus Project Conditions:

- University Avenue/Donohoe Street (Intersection #8)
- University Avenue/SB US-101 Ramps (Intersection #9)
- University Avenue/ Woodland Avenue (Intersection #10)
- Donohoe Street/NB US-101 On-Ramp (Intersection #15)
- Donohoe Street/NB US-101 Off-Ramp (Intersection #16)
- Woodland Avenue/University Circle (Intersection #18)

All deficient intersections are operating at unacceptable LOS without the project and the project increases the delay by more than 4 seconds. The source of the high delay at the affected intersections can be attributed to existing congestion along Donohoe Street, University Avenue, Woodland Avenue, and US-101. These intersections are closely spaced and congestion from one intersection results in congestion at upstream intersections. Therefore, recommended roadway improvements at some intersections may result in improved operations at adjacent intersections. The *Draft Environmental Impact Report (DEIR) for the University Plaza Phase II Project* dated December 2018 identified roadway improvements along Donohoe Street to address that project's deficiencies. Therefore, for consistency with nearby projects, many of the recommended roadway improvements are similar. The following recommended roadway improvements would improve the intersections to an acceptable LOS or otherwise improve pre-project conditions:

- University Avenue/Donohoe Street (Intersection #8): Widen Donohoe Street to 4 through lanes in each direction. In addition, it is recommended that an exclusive southbound right-turn lane be constructed. (Recommended as part of the University Plaza Phase II Project)
- University Avenue/Woodland Avenue (Intersection #10): Construct a third eastbound left-turn lane and reconfigure westbound approach to consist of one left-turn, one through, and one right-turn lane.
- Donohoe Street/NB US-101 On-Ramp (Intersection #15): Signalize intersection (Recommended as part of the University Plaza Phase II Project)
- Donohoe Street/NB US-101 Off-Ramp (Intersection #16): Widen Donohoe Street to 4 through lanes in each direction (Recommended as part of the University Plaza Phase II Project)

The proposed improvement to widen Donohoe Street to 4 lanes in each direction would assist in relieving congestion along Donohoe Street and nearby intersections along University Avenue and Woodland Avenue. Level of service for these recommended improvements are presented in Table 17-8: Existing Recommended Improvements Transportation Delay & LOS. It is recommended that the project applicant work with the City to determine funding and implementation responsibility of these transportation improvements.

Each of the recommended improvements will reduce vehicle delay at each of the noted intersections. However, since the recommended improvements would include widening of Donohoe Street between University Avenue and the NB US-101 off-ramp to four lanes in each direction, and adding a lane in each direction along Woodland Avenue at the intersection of University Avenue, this would increase the pedestrian crosswalk distances on these approaches. To better accommodate the effect on pedestrians at these locations, pedestrian signal timings will be reviewed to ensure that pedestrians have sufficient time to cross Donohoe Street and Woodland Avenue. Similarly, for bicyclists traveling along University Avenue, their travel distance through each intersection will increase with the widenings. To better accommodate the effect on bicyclists at these locations, signal timings will be reviewed to ensure that bicyclists have sufficient time to cross Donohoe Street and Woodland Avenue. Other complete streets improvements, such as bicycle signals and forward stop bars, may also be incorporated in these roadway improvements to better accommodate pedestrians and bicyclists. Transit users should experience an improvement in transit time with the recommended roadway improvements, similar to the reductions in vehicle delay.

Cumulative Plus Project

Based on the level of service analysis, the project would result in project-caused deficiencies at the following study intersections during the Cumulative Plus Project Conditions:

- University Avenue/Donohoe Street (Intersection #8)
- University Avenue/SB US-101 Ramps (Intersection #9)
- University Avenue/Woodland Avenue (Intersection #10)
- Donohoe Street/NB US-101 Off-Ramp (Intersection #16)
- Woodland Avenue/University Circle (Intersection #18)

Similar to Existing Plus Project, all deficient intersections are operating at unacceptable LOS without the project and the project increases the delay by more than 4 seconds. The following recommended roadway improvements would improve the intersections to an acceptable LOS or to better than pre-project conditions:

- University Avenue/Donohoe Street (Intersection #8): Widen Donohoe Street to 4 through lanes in each direction. In addition, it is recommended that an exclusive southbound right-turn lane be constructed. (Recommended as part of the University Plaza Phase II Project)
- University Avenue/Woodland Avenue (Intersection #10): Construct a third eastbound left-turn lane and reconfigure westbound approach to consist of one left-turn, one through, and one right-turn lane
- Donohoe Street/NB US-101 On-Ramp (Intersection #15): Signalize intersection (Recommended as part of the University Plaza Phase II Project)
- Donohoe Street/NB US-101 Off-Ramp (Intersection #16): Widen Donohoe Street to 4 through lanes in each direction (Recommended as part of the University Plaza Phase II Project)

The proposed improvement to widen Donohoe Street to 4 lanes in each direction would assist in relieving congestion along Donohoe Street and nearby intersections along University Avenue and Woodland Avenue. Level of service for these recommended improvements are presented in Table 17-9:

Cumulative Recommended Improvements Transportation Delay & LOS. It is expected that that the project would pay its Transportation Infrastructure Impact Fees and coordinate with the City to determine funding and implementation responsibility.

Table 17-8: Existing Recommended Improvements Transportation Delay & LOS

	Intersection	Control Type	Agency	LOS Threshold	Existing				Existing Plus Project				Existing Plus Project (Recommended Improvements)			
					AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
8	University Avenue/Donohoe Street	Signal	EPA	D	**229.5**	**F**	**87.1**	**F**	**318.6**	**F**	**90.3**	**F**	33.2	C	29.5	C
9	University Avenue/SB US-101 Ramps	Signal	EPA	D	**70.0**	**E**	**196.1**	**F**	**81.7**	**F**	**216.5**	**F**	26.2	C	24.7	C
10	University Avenue/Woodland Avenue	Signal	EPA	D	39.9	D	**128.6**	**F**	42.6	D	**171.8**	**F**	27.7	C	31.5	C
15	Donohoe Street/NB US-101 On-ramp	Uncontrolled /Signal	EPA	D	**47.7**	**E**	2.9	A	**55.1**	**F**	2.9	A	48.4	D	17.1	B
16	Donohoe Street/NB US-101 Off-ramp	Signal	EPA	D	**262.0**	**F**	32.5	C	**307.8**	**F**	33.2	C	27.6	C	26.9	C
18	Woodland Avenue/University Circle	Signal	EPA	D	28.1	C	**141.9**	**F**	25.9	C	**214.8**	**F**	30.2	C	32.3	C

Notes:
1. Each study intersection is controlled by a traffic signal, a side-street stop-controlled (SSSC), or an all-way stop-controlled (AWSC).
2. EPA = East Palo Alto
3. Intersection 8, 9, 10, 15, 16, an 18 were analyzed using SimTraffic due to close proximity of these intersection.
4. Delay refers to the average control delay for the entire intersection measured in seconds per vehicle. According to HCM methodology, overall LOS is not defined for side street stop-controlled intersections, instead the worst approach control delay is used in seconds.
5. If a specific movement has a delay less than the approach or intersection average, and the trips are increased for this movement, the overall intersection delay is decreased.
6. Intersections that are operating below acceptable levels are shown in BOLD and project-cause deficiencies are shaded light blue.

Source: Kimley-Horn & Associates, Inc. 2020

Table 17-9: Cumulative Recommended Improvements Transportation Delay & LOS

	Intersection	Control Type	Agency	LOS Threshold	Cumulative				Cumulative Plus Project				Cumulative Plus Project (Recommended Improvements)			
					AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
8	University Avenue/Donohoe Street	Signal	EPA	D	**320.8**	**F**	**98.8**	**F**	**336.0**	**F**	**106.1**	**F**	**102.2**	**F**	52.4	D
9	University Avenue/SB US-101 Ramps	Signal	EPA	D	**160.0**	**F**	**258.2**	**F**	**189.8**	**F**	**359.3**	**F**	**111.4**	**F**	**177.4**	**F**
10	University Avenue/Woodland Avenue	Signal	EPA	D	**105.2**	**F**	**316.8**	**F**	**136.0**	**F**	**296.4**	**F**	**96.1**	**F**	**233.3**	**F**
16	Donohoe Street/NB US-101 Off-ramp	Signal	EPA	D	**344.0**	**F**	**250.7**	**F**	**351.4**	**F**	**255.5**	**F**	**139.1**	**F**	**72.1**	**E**
18	Woodland Avenue/University Circle	Signal	EPA	D	30.9	C	**258.0**	**F**	48.5	D	**284.1**	**F**	25.9	C	**144.0**	**F**

Notes:
1. Each study intersection is controlled by a traffic signal, a side-street stop-controlled (SSSC), or an all-way stop-controlled (AWSC).
2. EPA = East Palo Alto
3. Intersection 8, 9, 10, 16, an 18 were analyzed using SimTraffic due to close proximity of these intersection.
4. Delay refers to the average control delay for the entire intersection measured in seconds per vehicle. According to HCM methodology, overall LOS is not defined for side street stop-controlled intersections, instead the worst approach control delay is used in seconds.
5. If a specific movement has a delay less than the approach or intersection average, and the trips are increased for this movement, the overall intersection delay is decreased.
6. Intersections that are operating below acceptable levels are shown in BOLD and project-cause deficiencies are shaded light blue.

Source: Kimley-Horn & Associates, Inc. 2020

17.8.8 Freeway Mainline Segment Analysis

Existing

Freeway segments were analyzed between each interchange along US-101 between Embarcadero Road and Marsh Road. Speed data for each direction of the freeway segments was downloaded from the INRIX database, which provides travel time and speed information based on GPS technology, to determine which freeway segments currently operate at a LOS F with a volume to capacity (v/c) ratio exceeding 1.0. Based on speed data collected for each weekday in February 2020, the following freeway segments operate at a LOS F:

Northbound (NB) US-101

- Between Embarcadero Road and University Avenue (PM Peak)

Southbound (SB) US-101

- Between Marsh Road and Willow Road (AM and PM Peak)
- Between Willow Road and University Avenue (AM and PM Peak)
- Between University Avenue and Embarcadero Road (AM and PM Peak)

Although these segments operate at LOS F, it is within the acceptable LOS F criteria and therefore is operating acceptably. The remaining freeway segments were analyzed in accordance with C/CAG guidelines. Based on the C/CAG guidelines, freeway segment LOS is determined based on v/c ratio and therefore, analysis using Highway Capacity Analysis (HCS) software is not needed. The capacity for freeway segments of six or more lanes is 2,300 vehicles per hour per lane (vphpl). Therefore, the capacity of the freeway is the total number of lanes multiplied by the capacity of each lane. Volumes were determined based on freeway mainline volumes collected on Tuesday, February 28, 2020, as well as on-ramp and off-ramp volumes from the Existing Conditions intersection turning movement counts. As shown in Table 17-10: Existing and Existing Plus Project Freeway Mainline Segment LOS, all non-oversaturated freeway segments (i.e. operate better than LOS F) operate at LOS C and are within the acceptable LOS F under Existing Conditions during the AM and PM peak hours.

It should be noted that in the AM peak period, NB US-101 is congested upstream of freeway study segments between south of I-880 and Rengstorff Avenue. Therefore, the volumes shown in Table 17-11: Cumulative and Cumulative Plus Project Freeway Mainline Segment LOS are counted throughput volumes along NB US-101 between Embarcadero Road and Willow Road and are not demand volumes. If the upstream bottleneck(s) along NB US-101 are improved, then this may result in higher throughput volumes in the study corridor that may result in congestion of the study segments. Similarly, in the PM peak period, there is congestion along NB US-101 between San Antonio Road and University Avenue. Since there is congestion just upstream of the freeway study segments along NB US-101 between University Avenue and Marsh Road, the volumes shown at these segments do not represent actual demand volumes and may result in a worse LOS than shown in Table 17-11: Cumulative and Cumulative Plus Project Freeway Mainline Segment LOS if the upstream bottleneck(s) are improved.

Existing Plus Project

As shown in Table 17-12: Existing and Existing Plus Project On-Ramp Queuing Summary, all freeway segments operate within acceptable LOS F during the AM and PM peak hours under Existing Plus Project conditions. However, as mentioned previously, NB US-101 freeway segments that are operating at LOS C or better in the AM peak hour, PM peak hour, or both may actually operate over capacity if the congestion upstream of the study segments is relieved. Since the LOS criteria is LOS F, the addition of the project trips results in no deficiencies to the freeway segments.

Cumulative

Similar to Existing Conditions, further analysis was not conducted for freeway segments that were shown to be operating at overcapacity under the preliminary analysis done in Existing Conditions along US-101 between Embarcadero Road and Marsh Road. Although these segments operate at LOS F, it is within the acceptable LOS F criteria and therefore is operating acceptably. Under Cumulative Conditions, mainline volumes for the remaining segments were calculated by growing existing volumes based on the yearly growth rate for the Caltrans Annual Average Daily Traffic Volumes (AADT) from 2013 to 2017.

As shown in in Table 17-13: Cumulative and Cumulative Plus Project On-Ramp Queuing Summary, all non-oversaturated freeway segments (i.e. those that operate better than LOS F) operate at a LOS D or better and is within the acceptable LOS F under Cumulative Conditions during the AM and PM peak hours.

It is anticipated that the congestion upstream of these freeway study segments, as observed in the existing conditions, would continue in the Cumulative conditions. Therefore, the mainline volumes at these locations are throughput volumes and if the upstream bottleneck(s) were to be improved, then this may result in higher throughput volumes in the study corridor that may result in congestion of the study segments and worse LOS than shown in Table 17-13: Cumulative and Cumulative Plus Project On-Ramp Queuing Summary.

Cumulative Plus Project

As shown in Table 17-10: Existing and Existing Plus Project Freeway Mainline Segment LOS, all freeway segments operate within acceptable LOS F during the AM and PM peak hours under Cumulative Plus Project Conditions. NB US-101 freeway segments that are operating at LOS D or better in the AM peak hour, PM peak hour, or both may actually operate at over capacity since there is congestion upstream of the segments and mainline volumes do not reflect actual demand volumes which may result in a worse than reported LOS if the upstream bottleneck(s) are improved. Since the LOS criteria is LOS F, the addition of the project trips results in no deficiencies to the freeway segments.

Table 17-10: Existing and Existing Plus Project Freeway Mainline Segment LOS

Freeway Segment	Peak Hour	LOS Criteria	# of Lanes (Mixed Flow)	Capacity	Existing			Existing Plus Project				
					Volume	V/C Ratio	LOS	Project Trips	Volume	V/C Ratio	LOS	Impact?
Northbound US-101												
Embarcadero Road and University Avenue	AM	F	4	9,200	6,212	0.675	C	11	6,223	0.676	C	No
	PM	F	4	9,200	-	-	F	33	-	-	F	No
University Avenue to Willow Road	AM	F	4	9,200	6,559	0.713	C	13	6,572	0.714	C	No
	PM	F	4	9,200	5,274	0.573	C	11	5,285	0.574	C	No
Willow Road to Marsh Road	AM	F	4	9,200	6,241	0.678	C	26	6,267	0.681	C	No
	PM	F	4	9,200	4,759	0.517	C	23	4,782	0.520	C	No
Southbound US-101												
Marsh Road to Willow Road	AM	F	4	9,200	-	-	F	11	-	-	F	No
	PM	F	4	9,200	-	-	F	31	-	-	F	No
Willow Road to University Avenue	AM	F	4	9,200	-	-	F	5	-	-	F	No
	PM	F	4	9,200	-	-	F	15	-	-	F	No
University Avenue to Embarcadero Road	AM	F	4	9,200	-	-	F	28	-	-	F	No
	PM	F	4	9,200	-	-	F	25	-	-	F	No

Notes:
V/C ratio was not analyzed for freeway segments that were determined to operate at overcapacity with a V/C greater than 1.0 or LOS F in a preliminary INRIX analysis.
Source: Kimley-Horn & Associates, Inc. 2020

Table 17-11: Cumulative and Cumulative Plus Project Freeway Mainline Segment LOS

Freeway Segment	Peak Hour	LOS Criteria	# of Lanes (Mixed Flow)	Capacity	Cumulative			Cumulative Plus Project				
					Volume	V/C Ratio	LOS	Project Trips	Volume	V/C Ratio	LOS	Impact?
Northbound US-101												
Embarcadero Road and University Avenue	AM	F	4	9,200	7,266	0.790	D	11	7,277	0.791	D	No
	PM	F	4	9,200	-	-	F	33	-	-	F	No
University Avenue to Willow Road	AM	F	4	9,200	7,950	0.864	D	13	7,963	0.866	D	No
	PM	F	4	9,200	6,392	0.695	C	11	6,403	0.696	C	No
Willow Road to Marsh Road	AM	F	4	9,200	7,654	0.832	D	26	7,680	0.835	D	No
	PM	F	4	9,200	5,837	0.634	C	23	5,860	0.637	C	No
Southbound US-101												
Marsh Road to Willow Road	AM	F	4	9,200	-	-	F	11	-	-	F	No
	PM	F	4	9,200	-	-	F	31	-	-	F	No
Willow Road to University Avenue	AM	F	4	9,200	-	-	F	5	-	-	F	No
	PM	F	4	9,200	-	-	F	15	-	-	F	No
University Avenue to Embarcadero Road	AM	F	4	9,200	-	-	F	28	-	-	F	No
	PM	F	4	9,200	-	-	F	25	-	-	F	No

Notes:
V/C ratio was not analyzed for freeway segments that were determined to operate at overcapacity with a V/C greater than 1.0 or LOS F in a preliminary INRIX analysis.
Source: Kimley-Horn & Associates, Inc. 2020

17.8.9 Freeway Ramp Analysis

Existing and Existing Plus Project On-Ramps

Freeway on-ramps were analyzed at the NB US-101 loop on-ramp from NB University Avenue (single lane on-ramp) and the SB US-101 diagonal on-ramp (double lane on-ramp) from University Avenue to determine whether on-ramp queues exceeded the available ramp-storage and spilled onto the adjacent arterials. Volumes were obtained from the intersection turning movement counts. Existing ramp metering rates were obtained from the *University Plaza Phase II Traffic Impact Analysis*, conducted by Hexagon in November 2018.

As shown in in Table 17-12: Existing and Existing Plus Project On-Ramp Queuing Summary, all freeway on-ramp queues are contained within the available on-ramp storage under Existing Conditions. The total on-ramp volumes are less than the ramp metering rates, and therefore minimal on-ramp queues are expected. It should be noted that actual on-ramp queues may be greater due to the platooning of vehicles from adjacent traffic signals, but these queues should dissipate prior to the arrival of the next platoon.

With the proposed project, all freeway on-ramp queues are contained within the available on-ramp storage under Existing Plus Project Conditions as shown in Table 17-12: Existing and Existing Plus Project On-Ramp Queuing Summary. Therefore, the project would not cause on-ramp queues to exceed the available on-ramp storage and there are no deficiencies to the local arterials.

Table 17-12: Existing and Existing Plus Project On-Ramp Queuing Summary

On-Ramp	Ramp Metering Rate	Available Storage for Each Lane (ft)	Total On-Ramp Volume (vph)				Queue Length of Each Lane (ft)			
			Existing		Existing Plus Project		Existing		Existing Plus Project	
			AM	PM	AM	PM	AM	PM	AM	PM
NB US-101 Loop On-Ramp - from NB University Ave	700 vphpl	1,950	368	245	381	256	25	25	25	25
SB US-101 Diagonal On-Ramp - from NB & SB University Ave	600 vphpl or 1,200 vph for both lanes	800	1,133	697	1,161	722	25	25	25	25

Notes:
For locations with an on-ramp demand volume less than the ramp metering rate, 25 feet (or one vehicle) is shown in the queue since there is existing ramp metering.
The NB US-101 loop on-ramp from NB University Avenue consists of one lane and the SB US-101 diagonal on-ramp consists of two lanes.
vphpl = vehicles per hour per lane
Source: Kimley-Horn & Associates, Inc. 2020

Cumulative and Cumulative Plus Project On-Ramps

Freeway on-ramps were analyzed under Cumulative Conditions at the NB US-101 loop on-ramp from NB University Avenue (single lane on-ramp) and the SB US-101 diagonal on-ramp from University Avenue (double lane on-ramp). Volumes were obtained from the intersection turning movement counts under Cumulative Conditions. Existing ramp metering rates were assumed to remain in the Cumulative

conditions, although it should be noted that ramp metering rates vary depending on the adjacent mainline flows.

As shown in in Table 17-13: Cumulative and Cumulative Plus Project On-Ramp Queuing Summary, all freeway on-ramp queues are contained within the available on-ramp storage under Cumulative Conditions except for the following:

- SB US-101 Diagonal On-Ramp from NB & SB University Avenue (AM Peak Hour)
    - Queue length of 4,025 feet per lane exceeds the available storage length of 800 feet by 3,225 feet

With the proposed project, all freeway on-ramp queues are contained within the available on-ramp storage under Cumulative Plus Project Conditions as shown in Table 17-13: Cumulative and Cumulative Plus Project On-Ramp Queuing Summary except for the following:

- SB US-101 Diagonal On-Ramp from NB & SB University Avenue (AM Peak Hour)
    - Queue length of 4,375 feet per lane with the project exceeds the available storage length of 800 feet by 3,575 feet. The project adds 350 feet (or approximately 14 vehicles) to the on-ramp. To improve this queuing deficiency, it is recommended that the metering rates be adjusted from 600 vehicles per hour per lane (vphpl) to 800 vphpl. As a result, there will be minimal queuing and all queues will be contained within the available storage length.

Table 17-13: Cumulative and Cumulative Plus Project On-Ramp Queuing Summary

On-Ramp	Ramp Metering Rate	Available Storage for Each Lane (ft)	Total On-Ramp Volume (vph)				Queue Length of Each Lane (ft)			
			Cumulative		Cumulative Plus Project		Cumulative		Cumulative Plus Project	
			AM	PM	AM	PM	AM	PM	AM	PM
NB US-101 Loop On-Ramp - from NB University Ave	700 vphpl	1,950	470	325	483	336	25	25	25	25
SB US-101 Diagonal On-Ramp - from NB & SB University Ave	600 vphpl or 1,200 vph for both lanes	800	1,521	1,138	1,549	1,163	4,025	25	4,375	25

Notes:
For locations with an on-ramp demand volume less than the ramp metering rate, 25 feet (or one vehicle) is shown in the queue since there is existing ramp metering.
NB US-101 on-ramp from NB University Avenue consist of one lane and SB US-101 on-ramp consist of two lanes.
vphpl = vehicles per hour per lane
Source: Kimley-Horn & Associates, Inc. 2020

Existing and Existing Plus Project Off-Ramps

Freeway off-ramps were analyzed at the NB US-101 off-ramp to SB University Avenue and the SB US-101 off-ramp to University Avenue to determine whether off-ramp queues extended onto the freeway. The effects of vehicle queuing were analyzed in SimTraffic and the 95th percentile queue is reported. The results are shown in Table 17-14: Existing and Existing Plus Project Off-Ramp Queuing Summary.

NB US-101 Off-Ramp

Under Existing Conditions, the 95th percentile off-ramp queue exceeds the available storage of 560 feet in the AM peak hour by 118 feet with a queue of 678 feet. However, the off-ramp queue of 678 feet extends into the weaving section between the NB US-101 on-ramp and the NB US-101 off-ramp, and the queue does not extend onto the freeway mainline. Under Existing Plus Project Conditions, the project adds 32 feet, or approximately one (1) vehicle to the total queue. With the improvement at University Avenue/Donohoe Street (Intersection #8) to widen Donohoe Street to 4 through lanes as a part of the intersection delay and LOS improvements, congestion along University Avenue is reduced and as a result, the off-ramp queue will be reduced to 357 feet and be contained within the available storage.

SB US-101 Off-Ramp

Under Existing Conditions, the 95th percentile off-ramp queue exceeds the available storage of 1,870 feet for the westbound left turn and the shared westbound left/right turn in the PM peak hour. The westbound left turn queue exceeds the storage length by 2,888 feet with a queue of 4,758 feet and the shared westbound left/right turn exceeds the storage length by 2,929 feet with a queue of 4,799 feet; both off-ramp queues extending onto the freeway mainline. Under Existing Plus Project Conditions, the project adds 385 feet, or approximately 16 vehicles to the westbound left turn and adds 325 feet, or approximately 13 vehicles to the shared westbound left/right turn. With the improvement at University Avenue/Donohoe Street (Intersection #8) to widen Donohoe Street to 4 through lanes as a part of the intersection delay and LOS improvements, congestion along University Avenue is reduced and as a result, the westbound left-turn queue will be reduced to 233 feet and the shared westbound left/right turn will be reduced to 334 feet and be contained within the available storage.

Cumulative and Cumulative Plus Project Off-Ramps

Freeway off-ramps were also analyzed under Cumulative and Cumulative Plus Project Conditions at the NB US-101 off-ramp to SB University Avenue and the SB US-101 off-ramp to SB University Avenue. The results are shown in Table 17-15: Cumulative and Cumulative Plus Project Off-Ramp Queuing Summary**.**

NB US-101 Off-Ramp

Under Cumulative Conditions, the 95th percentile off-ramp queue exceeds the available storage of 560 feet in the AM peak hour by 522 feet with a queue of 1,082 feet. However, the off-ramp queue of 1,082 feet extends into the weaving section between the NB US-101 on-ramp and the NB US-101 off-ramp, and the queue does not extend onto the freeway mainline. Under Existing Plus Project Conditions, the project adds less than one (1) vehicle to the total queue and does not result in a queuing deficiency at the off-ramp.

SB US-101 Off-Ramp

Under Cumulative Conditions, the 95th percentile off-ramp queue exceeds the available storage of 1,870 feet for the westbound left turn and the shared westbound left/right turn in the AM and PM peak hour.

The westbound left turn queue exceeds the storage length by 344 feet and 4,362 feet in the AM and PM peak hour, respectively. The shared westbound left/right turn queue exceeds the storage length by 363 feet and 4,242 feet in the AM and PM peak hour, respectively. Under Cumulative Plus Project

Conditions, the project adds 388 feet, or approximately 16 vehicles to the westbound left turn and adds 358 feet, or approximately 135 vehicles to the shared westbound left/right turn in the AM peak hour. Improvements at University Avenue/Donohoe Street (Intersection #8) to widen Donohoe Street to 4 through lanes under Existing Plus Project Conditions will also be applied under Cumulative Plus Project Conditions. This improvement may reduce the SB US-101 off-ramp queues. However, if additional improvements are needed to further reduce the off-ramp queues to be contained within the available storage length, signal timing at University Avenue and the SB US-101 ramps may be fine-tuned.

Table 17-14: Existing and Existing Plus Project Off-Ramp Queuing Summary

Off-Ramp	Available Storage Length (ft)	Movement	Off-Ramp Queue (ft)									
			Existing		Existing Plus Project				Existing Plus Project (with Improvement)			
			AM	PM	AM	AM Δ	PM	PM Δ	AM	AM Δ	PM	PM Δ
NB US-101 Off Ramp to SB University Ave	560	EBR	**678**	101	**710**	**32**	107	6	357	-321	-	-
SB US-101 Off-Ramp to SB University Ave	1,870	WBL	222	**4,758**	213	-9	**5,143**	**385**	-	-	233	-4,525
	1,870	WBL/R	254	**4,799**	249	-5	**5,124**	**325**	-	-	334	-4,465

Notes:
1. EBR= eastbound right, WBL= westbound left, WBL/R = westbound left/right, WBR = westbound right.
2. Queue lengths that exceed storage length by more than 25 feet (one vehicle) are **bolded** and operational deficiencies are shaded light blue.

Table 17-15: Cumulative and Cumulative Plus Project Off-Ramp Queuing Summary

Off-Ramp	Available Storage Length (ft)	Movement	Off-Ramp Queue (ft)					
			Cumulative		Cumulative Plus Project			
			AM	PM	AM	AM Δ	PM	PM Δ
NB US-101 Off Ramp to SB University Ave	560	EBR	**1,082**	162	**1,092**	**10**	217	55
SB US-101 Off-Ramp to SB University Ave	1,870	WBL	**2,214**	**6,232**	**2,602**	**388**	**6,157**	**-75**
	1,870	WBL/R	**2,233**	**6,112**	**2,591**	**358**	**6,037**	**-75**

Notes:
1. EBR= eastbound right, WBL= westbound left, WBL/R = westbound left/right, WBR = westbound right.
2. Queue lengths that exceed storage length by more than 25 feet (one vehicle) are **bolded** and operational deficiencies are shaded light blue.

17.8.10 Intersection Queuing Analysis

Queues lengths are commonly evaluated by public agencies while evaluating traffic operations. The effects of vehicle queuing were analyzed and the 95th percentile queue is reported for intersection turning movements where the project would add a substantial number of trips. The following turn movements were evaluated:

- University Avenue/Woodland Avenue northbound left-turn
- University Avenue/Woodland Avenue eastbound left-turn

Vehicle queues were determined based on the 95th percentile queue reported by SimTraffic simulation results as shown in Table 17-16: Vehicle Queuing Summary. It should be noted that queue results vary each time the simulation is run. Although the average of 10 SimTraffic model runs is reported, this may result in instances in which scenarios with higher traffic volumes show a slightly lesser queue. East Palo Alto does not have any standards for queuing deficiencies, however this analysis assumed a queuing storage deficiency would occur if the project causes the queue to extend beyond the turn pocket by 25 feet or more (i.e. length of one vehicle). When the vehicle queue already exceeds the turn pocket length under without project conditions, a queuing deficiency would occur if the project traffic lengthens the queue by 25 feet or more.

Table 17-16: Vehicle Queuing Summary

Intersection	Movement	Queue Storage (ft)	95th Percentile Queue Length (ft)							
			Existing		Existing Plus Project		Cumulative		Cumulative Plus Project	
			AM	PM	AM	PM	AM	PM	AM	PM
University Avenue/Woodland Avenue	NBL	175	60	**238**	85	**224**	**264**	170	**264**	**212**
	EBL1	160	**182**	33	**183**	**213**	**194**	**205**	**194**	**205**
	EBL2		**191**	133	**189**	**211**	**181**	**202**	**181**	**207**

Notes:
NBL= northbound left, EBL = eastbound left
Queue lengths that exceed storage length by more than 25 feet (one vehicle) are **bolded** and operational deficiencies are shaded light blue
Queue results based on SimTraffic results which vary each time the simulation is run. Although the average of 10 SimTraffic model runs is reported, this may result in lesser queues for scenarios with higher volumes.

Existing Conditions

Under Existing conditions, the northbound left-turn queue exceeds its storage length during the PM peak hour. With the addition of the project, the northbound left-turn queue still exceeds its storage length during the PM peak hour, but is less than without conditions.

In addition, under Existing conditions the eastbound left-turn queue lengths exceed its storage length during the AM peak hour. With the addition of the project, the eastbound queues continue to exceed its storage length with only a slight increase to the queue length. During the PM peak hour, the project will cause the queue length to exceed its storage length.

As shown in Table 17-17: Vehicle Queuing Summary (Recommended Improvements), the recommended improvement to construct a third eastbound left-turn lane at this intersection will assist with reducing the queue length for the eastbound left turn and northbound left turn queue. Since most of the queues

exceed its storage length without the project, the project should pay its Transportation Infrastructure Impact Fees to fund projects that would improve queue storage.

Cumulative Conditions

Under Cumulative conditions, the northbound left-turn queue exceeds its storage length during the AM peak hour. With the addition of the project, the northbound left-turn queue still exceeds its storage length during the PM peak hour, but there will be no change to the queue length. The project will cause the queue length to exceed its storage length in the PM peak hour.

Table 17-17: Vehicle Queuing Summary (Recommended Improvements)

Intersection	Movement	Queue Storage (ft)	95th Percentile Queue Length (ft)							
			Existing		Existing Plus Project (Recommended Improvements)		Cumulative		Cumulative Plus Project (Recommended Improvements)	
			AM	PM	AM	PM	AM	PM	AM	PM
University Avenue/Woodland Avenue	NBL	175	60	**238**	72	95	**264**	170	233	112
	EBL1	160	**182**	33	158	**207**	**194**	**205**	183	193
	EBL2		**191**	133	165	**202**	**181**	**202**	183	193
	EBL 3		-	-	146	166	-	-	164	177

Notes:
NBL= northbound left, EBL = eastbound left
Queue lengths that exceed storage length by more than 25 feet (one vehicle) are **bolded**.

In addition, under Cumulative condition the eastbound left-turn queue lengths exceed its storage length during both AM and PM peak hours. With the addition of the project, the eastbound queues continue to exceed its storage length with only a slight increase to the queue length.

As shown in Table 17-17: Vehicle Queuing Summary (Recommended Improvements), the recommended improvement to construct a third eastbound left-turn lane will assist with reducing the queue length for the eastbound and northbound queue. Since most of the queues exceed its storage length without the project, the project should pay its Transportation Infrastructure Impact Fee.

17.9 References

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18 Utilities and Service Systems

18.1 Introduction

This chapter describes the project's potential effects on utilities and service systems that could be caused by implementation of the project. The discussion addresses existing service systems in the affected area including municipal water supply, identifies and analyzes potential environmental impacts associated with the expansion or construction of those systems, and recommends measures to reduce or avoid adverse impacts anticipated from project construction and operation. Existing laws and regulations relevant to the provision and management of utility and service systems are also described. Information used to prepare this section came primarily from the following resources:

- City of East Palo Alto, Vista 2035 East Palo Alto General Plan – Infrastructure, Services, and Facilities, 2017
- City of East Palo Alto, Draft Environmental Impact Report City of East Palo Alto General Plan Update, 2016
- City of East Palo Alto, Water Safety Strategy Blueprint, 2014
- Freyer & Laureta, Inc., East Palo Alto Sanitary District Master Plan Update (Addendum/Technical Memorandum, October 2020)
- Freyer & Laureta, Inc., Draft Memorandum – Proposed Development at Woodland Park Apartments (August 2020)
- Project application and related materials

18.2 Scoping Issues Addressed

During the Notice of Preparation (NOP) public comment and scoping period for the proposed project, comments were received regarding utilities and service systems. Comments received were specifically concerned with capacity of sanitary sewer facilities, the location of critical (PG&E) natural gas and electric service infrastructure, and the condition of existing off-site utility systems.

18.3 Environmental Setting

18.3.1 Utilities and Service Systems

Water

Water Supply

The City's potable water supply is provided by American Water Services Enterprise (American Water) under a lease agreement with the City, as well as two small independent systems, the Palo Alto Park Mutual Water Company and the O'Connor Tract Co-op Water Company. All water supplied by American Water comes from the San Francisco Public Utilities Commission (SFPUC) supply. The main source of SFPUC's water supply (85 percent) comes from the upper Tuolumne River watershed in the Sierra Nevada and is stored in three major reservoirs: Hetch Hetchy Reservoir, Lake Lloyd, and Lake Eleanor. Water is delivered to the Bay Area via a system of aqueducts. SFPUC's remaining water supply comes from Bay Area reservoirs in the Alameda and Peninsula watersheds. The City has a guaranteed water

supply of 1.963 MGD (approximately 2,199 acre-feet per year [AFY]) from SFPUC (City of East Palo Alto, 2016). Water supplied to the project site is provided by American Water.

There is currently one groundwater supply well in the City located at Gloria Way and Bay Road. In 2018, the City completed the Gloria Way Well Rehabilitation project. The well can provide up to 300 gallons per minute (gpm), but is primarily operated as an emergency/back up well. Water from this well is only used for non-potable purposes such as street cleaning, dust-control, and sewer-line flushing.

There is currently no water storage capacity within the City's water system. The City relies on the SFPUC water supply system for the necessary storage for equalization, fire flows, and emergency uses.

In 2017, the City significantly increased its individual supply guarantee (ISG) from the SFPUC by purchasing the rights to one million gallons per day (MGD) from the City of Mountain View, and the transfer of 0.5 MGD from the City of Palo Alto in May 2018. Between April 2016 and May 2018, the City increased its water supply from 1.96 MGD to 3.46 MGD, an increase of 76 percent.

With the recent increase in water supply allocation to meet potential emergency and drought water supply shortfalls, and future water demand envisioned in the City General Plan and Ravenswood Specific Plan over the next 20 years, the City is focused on improvements to the distribution system to provide additional flow, storage, redundancy and reliability. The City's existing water mains are over 50 years old and are nearing the end of their useful life.

The City currently has three interties with other adjacent water systems: two, one-way interties with Palo Alto Park Mutual Water Company and O'Connor Tract Cooperative Water Company, and one intertie with the City of Menlo Park. The City previously had an intertie with the City of Palo Alto, and is currently working on a draft agreement to reconstruct the intertie in the near future.

Immediately adjacent to the project site, existing water mains are located within Euclid Avenue, O'Connor Street, West Bayshore Road and Manhattan Avenue. These lines connect to larger main in Woodland Avenue.

Existing Water Demand

Based on water bills from each of the existing buildings in the propped project area from 2016 to 2018, the property utilizes an average of 144 gallon per day (gpd) per unit, or a total of 23,162 gpd for all 161 existing apartments, common areas and tenant-serving facilities. This represents the gross total existing water demand as a baseline.

Wastewater

Wastewater services in the City are provided by two different sanitary districts: the East Palo Alto Sanitary District (EPASD, or the District) and the West Bay Sanitary District (WBSD). The EPASD covers the majority of the City's service area and a portion of Menlo Park. The WBSD covers a small portion of the City as part of its larger service area to the north and east, including areas in the cities of Menlo Park, Atherton, Redwood City, and Woodside, and some unincorporated areas within San Mateo and Santa Clara counties. Wastewater services are provided to the project site by the EPASD.

The EPASD has connections to 3,327 single-family residential units, 3,510 multifamily units, and 229 commercial, industrial, and institutional facilities. EPASD infrastructure includes 32 miles of sewer pipeline and 560 manholes.[1]

The District's collection system is a gravity system with approximately 70 percent of the existing pipelines being six-inch (6-in) diameter. The larger collector lines range between 8-in diameter and 24-in diameter including a siphon beneath the San Francisquito Creek. The District replaced the siphon with two new, parallel siphons in 2017. The pipe within Euclid Avenue is currently an 8-inch line. Sewage collected by the EPASD within the system is conveyed by gravity to a 24-inch trunk line that flows to the Palo Alto Regional Water Quality Control Plant (PARWQCP) for treatment. The City of Palo Alto owns, maintains, and upgrades the PARWQCP and the contributing jurisdictions purchase capacity rights. As of March 2016, all contributing agencies have been operating under their allowable capacity.[2]

The PARWQCP treats approximately 22 million gallons per day (MGD) of wastewater from the EPASD, Los Altos, Los Altos Hills, Mountain View, Palo Alto, and Stanford University. The PARWQCP has a dry-weather capacity of 39 MGD and a wet-weather capacity of 80 MGD. The EPASD has an allotted annual average treatment capacity allotment from PARWQCP of 3.06 MGD, or 7.64 percent of the plant's total treatment capacity (City of East Palo Alto, 2016).

Existing sanitary sewer lines extend along East O'Keefe Street, Euclid Avenue, Manhattan Avenue, and O'Connor Street. The District has identified constraints within the existing conveyance system's hydraulic capacity and regularly requires fees to fund capacity studies. EPASD's position is that capacity is not available within the system to serve additional development.

The District maintains a mathematical model of the existing collection system using the computer software program HYDRA7. This model is used to predict future flows and infrastructure system needs based on future project and planned land uses. This is a planning model intended to identify and prevent sanitary sewer overflows (SSOs).

Stormwater

The City has two major storm drain systems: the Runnymede Storm Drain System and the O'Connor Storm Drain System. Due to its proximity to the San Francisco Bay, portions of the drainage system are influenced by tides. Stormwater lines in the project area drain into the O'Connor Storm Drain System which flows into the O'Connor Detention Pond and the O'Connor Pump Station and ultimately flows to an outfall into San Francisquito Creek. See Chapter 13, Hydrology and Water Quality for more information on surface drainage.

There are existing storm drains that extend along O'Connor Street, Euclid Avenue, West Bayshore Road, and Manhattan Avenue, including an existing 12-inch storm drain that extends along Euclid Avenue from O'Connor Street to West Bayshore Road. An existing 20-inch storm drains extends along O'Connor Street from Euclid Avenue and Manhattan Avenue, and a 10-inch storm drain extends along Manhattan Avenue and West Bayshore Road. According to the City's Storm Drain Master Plan, the Euclid Avenue Storm Drain (to which the project area currently drains) has existing capacity issues.

[1] City of East Palo Alto, *Draft EIR General Plan Update*, page 4.15-10
[2] City of East Palo Alto, *Draft EIR General Plan Update*, page 4.15-11

Solid Waste

The City is a member of the South Bay Waste Management Authority (SBWMA), a joint powers authority whose other members include Atherton, Belmont, Burlingame, Foster City, Hillsborough, Menlo Park, Redwood City, San Carlos, San Mateo, WBSD, and San Mateo County.[3] The handling, transfer of solid waste and collected recyclables from the SBWMA area is taken to the Shoreway Environmental Center (SEC) located in the City of San Carlos. At SEC, collected solid waste and recyclables are transferred for shipment to the Ox Mountain Sanitary Landfill located at 12310 San Mateo Road in the City of Half Moon Bay.

Ox Mountain Sanitary Landfill (also known as Corinda Los Trancos Sanitary Landfill) has a permitted capacity to handle 3,598 tons per day. The remaining capacity available at the landfill is 22,180,000 cubic yards (CalRecycle, 2020). The landfill collects construction and demolition waste, sludge (biosolids), asbestos, tires, and mixed municipal wastes.

Based on current waste disposal rates, the landfill's estimated closure year is 2034. The City has indicated that this landfill has sufficient capacity to accommodate waste materials through the year 2035. In 2014, the landfill received 496,419 tons of solid waste, of which 10,011 tons of solid waste was from the City.[4]

Electricity

Electricity in the City is provided by Pacific Gas & Electric (PG&E). In 2018 (the most recent year for which data is provided), the sources of electricity consisted of 15 percent from natural gas, 34 percent from nuclear power, 13 percent from large hydroelectric, and 39 percent from renewables (PG&E, 2020a). Local PG&E distribution lines are located in the public rights of way and currently connect to the project site at multiple locations.

Natural Gas

PG&E operates one of the largest natural gas distribution networks in the country, including 42,141 miles of natural gas distribution and 6,438 miles of transmission pipelines (PG&E, 2020b). Service is provided to 16 million people statewide. No natural gas pipeline traverses the project site (PG&E, 2020c), but facilities are accessible from existing lines near the project site. PG&E has indicated that there could be gas transmission pipelines in the area that would be considered critical facilities.

Telecommunications

AT&T and Comcast currently provide telecommunication, cable television, and Internet services to the project site.

[3] City of East Palo Alto, *Draft EIR General Plan Update*, page 4.15-18
[4] City of East Palo Alto, *Draft EIR General Plan Update*, page 4.15-19

18.4 Applicable Regulations, Plans, and Standards

18.4.1 Federal

Water

Federal Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. The SDWA applies to every public water system in the United States. The SDWA authorizes the U.S. Environmental Protection Agency (US EPA) to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. The US EPA, states, and water systems work together to make sure that these standards are met.

Originally, the SDWA focused primarily on treatment as the means of providing safe drinking water at the tap. The 1996 amendments greatly enhanced the existing law by recognizing source water protection, operator training, funding for water system improvements, and public information as important components of safe drinking water. This approach ensures the quality of drinking water by protecting it from source to tap.

The National Primary Drinking Water Standards establish the maximum contaminant levels (MCLs) allowed in public distribution systems. The National Secondary Drinking Water Standards establish the MCLs that apply to potable water supplies at the point of delivery to the customer. The EPA administers the SDWA at the federal level and establishes MCLs for bacteriological, inorganic, organic and radiological contaminants.

Wastewater

Clean Water Act

The Federal Water Pollution Control Act of 1972, more commonly known as the Clean Water Act (CWA), regulates the discharge of pollutants into watersheds throughout the U. S. Under the CWA, the United States Environmental Protection Agency (U.S. EPA) implements pollution control programs and sets wastewater treatment standards.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established pursuant to the CWA to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant.

In California, the federal requirements are administered by the State Water Resources Control Board (SWRCB), and individual NPDES permits are issued by the California Regional Water Quality Control Boards (RWQCBs).

Solid Waste

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several amendments, the Act as it stands today governs the management of solid and hazardous waste and underground storage tanks (USTs). The RCRA is an amendment to the Solid Waste Disposal Act of 1965. The RCRA has been amended several times, most significantly by the Hazardous and Solid Waste Amendments (HSWA) of 1984. The RCRA is a combination of the first solid waste statutes and all subsequent amendments. The RCRA authorizes the Environmental Protection Agency (EPA) to regulate waste management activities. The RCRA authorizes states to develop and enforce their own waste management programs, in lieu of the Federal program, if a state's waste management program is substantially equivalent to, consistent with, and no less stringent than the Federal program.

18.4.2 State and Regional

Water Supply

Senate Bill 610

Senate Bill (SB) 610 amended the Public Resources and Water Codes as they pertain to consultation with water supply agencies and water supply assessments. SB 610 requires water supply assessments (WSAs) for “projects” as that term is defined by Water Code Section 10912, which are subject to CEQA. SB 610 requires a city or county that determines a project is subject to the CEQA to identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water supply assessment (WSA), except as otherwise specified. This WSA must be included in the administrative record (and included in environmental documentation for projects subject to CEQA) that serves as the evidentiary basis for an approval action by the city or county on such projects.

Senate Bill 221

Whereas SB 610 requires a written assessment of water supply availability, SB 221 requires lead agencies to obtain an affirmative written verification of sufficient water supply prior to approval of certain specified subdivision projects. For this purpose, water suppliers may rely on an Urban Water Management Plan (if the proposed project is accounted for within the UWMP), a Water Supply Assessment prepared for the project, or other acceptable information that constitutes “substantial evidence.”

“Sufficient water supply” is defined in SB 221 as the total water supplies available during normal, single-dry and multiple-dry water years within the 20-year (or greater) projection period that are available to

meet the projected demand associated with a proposed project, in addition to existing and planned future uses.

The Water Conservation Act of 2009

California legislation enacted in 2009 as Senate Bill (SB) 7 of the 7th Special Legislative Session (SB X7-7) instituted a new set of urban water conservation requirements known as "20 percent by 2020." These requirements stipulate that urban water agencies reduce per capita water use within their service areas by 20 percent relative to their use over the previous 10 to 15 years.

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act) grants the State Water Resources Control Board (SWRCB) and the RWQCBs power to protect surface water and groundwater quality and is the primary vehicle for implementing California's responsibilities under the Federal Clean Water Act. The SWRCB is divided into nine regions, each overseen by a RWQCB. The SWRCB is responsible for protecting California's surface waters and groundwater supplies.

Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region. The Basin Plan must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State Water Policy. The Basin Plan establishes beneficial uses for surface and groundwater in the region and sets forth narrative and numeric water quality standards to protect those beneficial uses. Basin plans are updated every three years and provide the basis of determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals. The Porter-Cologne Act also states that an RWQCB may include water discharge prohibitions applicable to particular conditions, areas, or types of waste within its regional plan. The Porter-Cologne Act is also responsible for implementing Clean Water Act Sections 401 and 402 and 303(d) to SWRCB and RWQCBs.

The 2014 Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act of 2014 (SGMA), enacted in October 2014, applies to all groundwater basins in the state. Any local agency that has water supply, water management or land use responsibilities within a groundwater basin may elect to be a "groundwater sustainability agency" for that basin. Local agencies have until January 1, 2017, to elect to become or form a groundwater sustainability agency.

In the event a basin is not within the management area of a groundwater sustainability agency, the county within which the basin is located will be presumed to be the groundwater sustainability agency for the basin. By enacting the SGMA, the legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdictions.

Wastewater

San Francisco Bay Regional Water Quality Control Board

The San Francisco Bay Regional Water Quality Control Board (RWQCB) is the local division of the SWRCB that has wastewater oversight authority over the project. SWRCB is a State department that provides a definitive program of actions designed to preserve and enhance water quality and to protect beneficial uses of water in California. NPDES permits allow the RWQCB to collect information on where the

wastewater is disposed, what type of wastewater is being disposed, and what entity is disposing of the wastewater. The RWQCB is also charged with conducting inspections of permitted discharges and monitoring permit compliance. Please also refer to Chapter 13, Hydrology & Water Quality, for discussion on water quality monitoring in the City.

Stormwater

San Francisco Bay RWQCB Basin Plan

The San Francisco Bay RWQCB regulates water quality in accordance with the area's Basin Plan, which lists the beneficial uses that the RWQCB has identified for local aquifers, streams, marshes, rivers, as well as the water quality objectives and criteria that must be met to protect these uses. The RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements, including permits for nonpoint sources such as the urban runoff discharged by a City's stormwater drainage system. The Basin Plan also describes watershed management programs and water quality attainment strategies. . See Chapter 13, Hydrology and Water Quality, for details regarding regulation of stormwater quality.

Solid Waste

California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (AB 939) requires that cities and counties divert 50 percent of all solid waste from landfills as of January 1, 2000, through source reduction, recycling, and composting. AB 939 also establishes a goal for all California counties to provide at least 15 years of ongoing landfill capacity.

To help achieve this goal, the Act requires that each city and county prepare a Source Reduction and Recycling Element to be submitted to the Department of Resources Recycling and Recovery (CalRecycle), a department within the California Natural Resources Agency, which administers programs formerly managed by the State's Integrated Waste Management Board and Division of Recycling.

As part of CalRecycle's Zero Waste Campaign, regulations affect what common household items can be placed in the trash. Certain household materials—including fluorescent lamps and tubes, batteries, electronic devices and thermostats—that contain mercury are no longer permitted in the trash and must be disposed separately at Ox Mountain Landfill.

In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system. The per capita disposal measurement system is based on a jurisdiction's reported total disposal of solid waste divided by a jurisdiction's population. CalRecycle sets a target per capita disposal rate for each jurisdiction. Each jurisdiction must submit an annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act requires areas in development programs to be set aside for collecting and loading recyclable materials. The Act requires CalRecycle to develop a model ordinance for adoption by any local agency relating to adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model,

or an ordinance of their own, governing adequate areas in development programs for collection and loading of recyclable materials.

CALGreen Building Code

The California Green Building Standards Code (CALGreen) came into effect for all projects beginning after January 1, 2011. Section 4.408, Construction Waste Reduction Disposal and Recycling, mandates that, in the absence of a more stringent local ordinance, a minimum of 50 percent of non-hazardous construction and demolition debris must be recycled or salvaged. The Code requires the applicant to have a waste management plan for on-site sorting of construction debris.

18.4.3 Local

Vista 2035 East Palo Alto General Plan

General Plan policies relative to utilities and service systems are identified below. Relevant General Plan Policies that directly address reducing and avoiding environmental issues related to utilities and service systems include the following:

Economic Development

Policy 3.2: Concurrency. Require that infrastructure is in place or planned and funded prior to approval of new development projects that require such infrastructure, including water availability.

Infrastructure, Services, and Facilities

Goal ISF-1: Manage stormwater safely, efficiently, and sustainably.

- Policy 1.3: Stormwater infrastructure for new development. Require development projects to pay for their share of new stormwater infrastructure or improvements necessitated by that development.

Goal ISF-2: Ensure a sustainable, clean, long-term water supply.

- Policy 2.2: Water supply infrastructure. Improve infrastructure to ensure the provision of a clean, reliable citywide water supply sufficient to serve existing and planned development.
- Policy 2.4: Water supply planning and demand offset regulations for new or intensified development. Consider and adopt a water offset ordinance or other policy to reduce the water demand and to ensure adequate water supply exists to meet the needs of new projects or intensified development. Allow the City the right to require a Water Supply Assessment of any development project. The policy will consider the type or size of projects that might be exempt, the water offset ratio, the method for analyzing the projected water demand and methods for offset demand, the types of demand reduction/mitigation implementation options (e.g., onsite or offsite design or building modification), including an in-lieu fee, that will be required, a method for estimating the savings from onsite or offsite efficiency measures, and the appropriate regulatory instruments to enforce, implement, and monitor the offset policy.
- Policy 2.6: Water infrastructure for new development. Require development projects to pay for their share of new water infrastructure or improvements necessitated by that development, including but not limited to water supply, storage, and conservation: and recycled water.
- Policy 2.7: Water supply for new development. Require new or intensified development to demonstrate that adequate water is available before project approval. Before new or intensified

development projects are approved, the development proponent must provide the City with enforceable, verifiable proof that adequate water supply exists to supply the new or intensified development. The enforceable proof can take three forms:

  - Depending on the location of the development, a will-serve letter or similar instrument from the City of East Palo Alto, the Palo Alto Park Mutual Water Company, or the O'Connor Tract Co-Operative Water Company.
  - A verifiable recordable water demand offset project or program that ensures that there is no net increase in new water demand.
  - Verifiable and enforceable proof that the developer has secured new water supplies necessary to serve the project.

- Policy 2.8: Municipal water conservation and efficiency. Seek to reduce municipal water use through the following strategies:
  - Implement aggressive indoor and outdoor water efficiency measures in all new city developments, substantial rehabs and remodels.
  - Prioritize water efficiency upgrades to existing buildings, such as water efficient fixtures.
  - Reduce potable water used for parks, by planting drought-tolerant species and implementing other water saving practices.
- Policy 2.9: Citywide water conservation and efficiency. Encourage and promote community water conservation and efficiency efforts, including indoor and outdoor efforts that exceed CALGreen requirements.

Goal ISF-3: Provide a well-maintained sewer system for the community

- Policy 3.2: Sewer infrastructure for new development. Require development projects to pay for their share of new sewer infrastructure or improvements necessitated by that development.

Goal ISF-4: Use best practices to reduce and manage solid waste.

- Policy 4.2: Waste reduction. Seek to reduce East Palo Alto's rate of waste disposal per capita, and to increase the diversion rate of recycling and green waste.
- Policy 4.4: Construction waste. Encourage all construction projects to divert 80 percent of their construction waste away from landfills, exceeding CALGreen requirements.

Goal ISF-6: Ensure safe and well-maintained telecommunications services.

- Policy 6.4: Fiber optics infrastructure. Require new developments to install and ensure compatibility with the most-up-to-date and established broadband and telecommunications technology.

Westside Area Plan

The Westside Area Plan is a separate chapter of the Vision 2035 General Plan, providing more detailed goals and policies for the Westside area of East Palo Alto. One guiding principle of this plan relative to utilities and service systems is to address infrastructure deficiencies on the Westside, as noted below:

> ***Address infrastructure deficiencies.*** *There should be upgrades to the current infrastructure to address deficiencies on the Westside. This includes improved water quality and supply, improving*

flood protection from San Francisquito Creek, and upgrading existing water and sewer infrastructure.

The plan's goals and policies are designed to address deficiencies in infrastructure in order to protect the health and safety in the Westside by enabling sufficient infrastructure capacity and services for new and existing development. Specific policies call for wet and dry infrastructure upgrades to ensure safe and reliable services for new and existing residents. In addition, specific policies require new developments in the Westside pay its fair share for infrastructure and utility improvements.

East Palo Alto Municipal Code

Chapter 13.24 – Water System

Chapter 13.24 of the City Municipal Code outlines the City's water conservation plan. The code identifies three phases of conservation pending a 20, 40, or 60 percent reduction of the City's water supply from the Hetch Hetchy watershed.

Chapter 13.12 Storm Water Management and Discharge

Chapter 13.12 of the City Municipal is also known as "the City of East Palo Alto Stormwater Management and Discharge Control Ordinance". This ordinance is intended to reduce the maximum extent practicable non-stormwater discharges to the stormwater drainage system, control discharge to the stormwater drainage system, and enhance the water quality of watercourses and water bodies.

Chapter 17.04 – Water Conservation

Chapter 17.04 of the City Municipal Code outlines the framework for the City's water conservation measures. This chapter implements the provisions of the conservation element of the comprehensive water resources management plan for San Mateo County.

Chapter 17.06 – Water Conservation in Landscaping Ordinance

Chapter 17.04 of the City Municipal Code outlines the City's water conservation requirements for new structures and water efficient landscaping.

18.5 Environmental Impacts and Mitigation Measures

18.5.1 Significance Criteria

The following significance criteria for utilities and service systems were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts of the project.

An impact of the project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
- Comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

18.5.2 Summary of No and/or Beneficial Impacts

Not applicable. The project could potentially have adverse effects based on the thresholds of significance because the project would require construction to connect to new, existing or upgraded utility lines (e.g. natural gas, storm drain, water, sanitary sewer, and electrical lines).

18.5.3 Impacts of the Proposed Project

Impact UTIL-1: The project will require construction to connect and/or upgrade service systems to service the project. This is a less than significant impact with construction mitigation incorporated.

Water Supply and Fire Flow Infrastructure

As identified in the Chapter 3, Project Description, the project proponents have studied a range of alternatives for providing improved water supply and fire flow systems to service the project area. For analysis purposes, this EIR assumes that the project would construct a 1.5 million-gallon (MG) storage tank and 4,500 to 5,000 gallon per minute (gpm) fire pump station at 375 Donohoe Street (on the Westside) to provide a minimum of four hours of continuous fire flow. The water tank is not required for the project's water service but is being planned as a community benefit to enhance city-wide storage and fire flow.

Physical improvements at this 0.47-acre tank site would include site clearing, material storage, fencing, and paving the entire site around the tank for parking and maintenance. Construction would also include installation of a 14-inch water main from the tank site, continuing within Donohoe Street and West Bayshore Road, ultimately connecting to upsized 12-inch mains that surround the project site. In this scenario, the project would install 1,090 linear feet of new or upsized 14-inch pipe, and 1,700 feet of upsized 12-inch pipe.

The primary parcel at 375 Donohoe Street is a vacant field, with approximately 10 trees including redwood, oak, fir, orange and ornamentals. Uses on adjoining parcels include a small temporary park ("Boom" Pop Up Park) and a residential duplex use on Dumbarton Avenue owned by the applicant.

Construction of these improvements would occur at the same time as other construction for the project. Beyond on-site construction activity to install the tank and pump house, physical construction would also involve trenching within the public rights of way, pipe installation, backfilling, compaction and

repaving. Traffic management consistent with industry standards would be employed to allow continued safety and circulation around the construction area.

Sanitary Sewer Infrastructure

The proposed project would connect to existing sanitary sewer lines located within the roadways adjacent to the site, primarily within Euclid Avenue. If specific sanitary sewer line improvements are required for the project (see Impact UTIL-3 below), any such physical improvements would result in construction impacts similar to water system impacts identified previously, including trenching and disruption within in the public right of way. If necessary to service the project site, such improvements would be constructed concurrent with the rest of the project, or as needed based on remaining capacity.

Storm Drain Infrastructure

Consistent with current stormwater and water quality regulations, the project will capture and manage stormwater flows through a series of drainage zones within the project boundaries. Storm water facilities, whether on site or off site, would be constructed concurrent with and as part of the project. See Chapter 13 regarding drainage system capacity and changes to hydrology.

Mitigation Measures

The specific impacts of construction – dust, noise, water quality, aesthetics, and traffic management – have been considered within those various chapters of this Draft EIR. As the installation of infrastructure occurs in the early stages of project construction, those same measures will serve to effectively mitigate the temporary impacts associated with the construction and connection to all wet and dry utility systems. No additional or specific mitigation is warranted as it relates to the construction of these facilities.

Impact UTIL-2: **The project would have sufficient water supplies to serve the project and reasonably foreseeable development during normal, dry and multiple dry years. This is a less than significant impact**.

Construction

Water usage during construction would be limited to needs for dust suppression, equipment, cleanup and other incidental uses. During construction, water will likely be supplied through contracted site services as existing service systems are tied off for construction. Compared to existing water use at the existing apartment buildings, water use during construction will be nominal, and impacts related to water supplies are **less than significant**.

Operation

Total Water Demand and Conservation

Based on water supply and demand calculations provided by the applicant (David Baker Architects, September 2019), the project would have an average water demand of up to 77 gallons per day (gpd) per residential unit compared to 144 gpd per unit under existing conditions. This translates to 46,437 gpd for the 605-unit project, or about a doubling of the residential water consumption compared to

existing conditions, but for 3.8 times as many units. The project's lower per-unit demand reflects the efficiency of new, low flow water fixtures required by law, and the total fixture count.

On an annual basis, the project would increase net water demand by 8,495,375 gallons per year based on these demand assumptions. It is noted that existing water demand/usage data is based billing records and actual usage by the 161 existing units.

For analysis purposes, water use for landscaping and common areas is assumed to be the same for pre- and post-project conditions. The water demand calculations assume that all units have in-unit washing machines and clothes dryers. If the project is designed with common laundry facilities for some or all of the units, water demand would be reduced accordingly.

As described under Impact UTIL-1, the project is proposing a new off-site water tank (up to 1.5 million gallons) and pump house that would improve system storage and fire flow, but also tie into the City's larger distribution system. This, facility, while oversized and not necessary for the project, would improve pressure, storage and fire flow on both sides of Highway 101 and is consistent with the City's Water Safety Strategy Blueprint to provide a total 4 million gallons of storage as part of long-term planning. The 1.5-million-gallon tank, pump capacity and water main upgrades would represent a significant contributor to that goal and serve as a larger public benefit.

Considering the City's recently guaranteed water supplies of 1.5 million gallons per day from resources in Mountain View and Palo Alto, the project alone – with an annual net increase in demand of 26 acre feet - would have sufficient supplies through all water years. Impacts regarding water supply are therefore **less than significant**. See Impact UTIL-5 below regarding cumulative water supply and demand.

Impact UTIL-3: **The wastewater treatment provider, via the Palo Alto Regional Water Quality Control Plant (PARWQCP), has sufficient capacity within its treatment system to accommodate the project. However, deficiencies have been identified in the capacity of the wastewater conveyance system that could be further affected by the project. This is a significant unavoidable impact.**

Project Operations - Wastewater Treatment

As described in the existing setting, the project site is served by the East Palo Alto Palo Sanitary District (EPASD) for collection and conveyance; however, treatment is provided at the PARWQCP. According to the General Plan Update EIR, the PARWQCP is in good condition and is considered to have sufficient capacity to serve the community for 30 years without the need for expansion. Using the applicant's water demand calculations, and assuming 90 percent of the net total annual project water demand of 8,495,375 gallons ends up as wastewater, the proposed project would generate a net increase of approximately 20,974 gallons per day of wastewater treatment demand, which would not result in the need for increased wastewater treatment facilities given the PARWQC's dry weather capacity of 39 mgd and wet weather capacity of 80 mgd. Even when using EPASD's conservative dry weather flow assumption of 240 gpd per unit, average daily dry weather flow would be 106,560 gpd, still well within the capacity of the treatment plant. Because the project would not require or result in the construction of new water or wastewater treatment facilities and would not result in a determination by the

PARWQCP that is does not have capacity to serve the proposed project, the impact is **less than significant**.

Project Operations – Wastewater Conveyance

To assess the potential effects upon the sewer system created by implementation of the Euclid Improvements project, EPASD drafted a technical memorandum dated August 19, 2020 prepared by Freyer & Laureta, Inc. That memorandum, together with the District's October 2020 Addendum to the Master Plan Update, conclude that specific improvements are needed to the City's sewer system to accommodate the flows of the project and cumulative flows from other planned development.

Using the District's wastewater generation rate of 240 gallons per day (gpd) per dwelling unit, the project would result in a net increase of 106,560 gpd of average dry weather flow, as shown in Table 18-1: Estimated Sewer Flows Based on District Standards below.

Table 18-1: Estimated Sewer Flows Based on District Standards

Building	Number of Units	Estimated Average Dry Weather Flow (gdp)
Proposed	605	145,200
Existing	161	38,640
Total Additional	444	106,560

Source: Freyer & Laureta, Inc., 2020

Based on the District's Master Plan, the 8-inch line within Euclid Avenue adjacent to the site at manholes D21, D23 and D24 are "surcharged" or suffering from capacity constraints. Without adequate capacity, points in the system could experience sanitary sewer overflow (SSO). These constraints to the existing system near the project continue under U.S. 101 and downgradient. The constraints along Euclid Avenue are not isolated.

The Master Plan and Woodland Park technical memorandum show that the system immediately adjacent to the project is adequately sized to handle the project's dry weather flows. However, the analysis shows the need for an upsizing of the line in Euclid Avenue from 8 inches to 10 inches under peak wet weather flow conditions. Other lines of increasing diameter downgradient are also identified for upgrades and/or upsizing to accommodate planned growth and development under peak wet weather conditions. The modeling shows the need for improvement all the way to manhole T17, which is nearly the entire distance before reaching the 24-inch main near the Palo Alto Airport.

As discussed previously, the project expects to generate significantly lower wastewater flows of about 21,000 gpd when considering unit size, fixture count and water conservation measures that are now required by the building code. This difference in assumed wastewater generation is a critical factor, as it could determine whether or not the project would have an impact. For analysis purposes, this EIR is recognizing the conservative wastewater generation rates used by the District.

MM UTIL-3.1 Fair Share Funding of Project Improvements

The project applicant shall either fund the fair share of construction of physical sewer line improvements (pipe upgrades) immediately downstream of the project, provide fair share funding toward system wide sanitary sewer system improvements, or a reasonable combination of both. The project's financial and implementation responsibility for sewer capacity improvements shall be determined in consultation with

the City of East Palo Alto Public Works Department. Fair share funding of common improvements to the city-wide system would also address the project's contribution to significant cumulative effects. Funding or construction of common improvements shall occur prior to the issuance of building permits or as determined by the City. The project's fair share of responsibility shall be proportionate to the impact. The project shall not be responsible for mitigating all existing deficiencies.

Implementation of MM UTIL-3.1 would ultimately mitigate project impacts by providing physical pipeline upgrades near the project or by providing fair share funding of common improvements that are needed city wide. However, until such improvements are in place, and based on the District's wastewater generation rates, the project's effects on the existing system would be considered **significant and unavoidable**.

As sewer system improvements are part of the City's backbone infrastructure used by all existing and future development, impacts to the system and the cost of adequate sizing of facilities are cumulative by nature. Interim or undersized improvements to address project-specific impacts may not feasible or economically sound, and localized physical improvements upstream would not alleviate system capacity downstream. Improvements to critical city sewer infrastructure should not be planned or designed based on the future flows of the Euclid Improvements project alone.

Impact UTIL-4: The project will not generate solid waste beyond the capacity of existing infrastructure or landfills, and would comply with federal, State and local statues related to solid waste. This is a less than significant impact.

Construction

Construction waste would be generated during construction activities. In accordance with General Plan policy ISF-4.4 *Construction Waste*, the project would be required to divert 80 percent of its construction waste away from landfills, which would exceed CalGreen construction waste diversion requirements.

Operation

As a part of California's continued commitment to reduce the amount of solid waste entering landfills, AB 939 (also known as the California Integrated Waste Management Act) requires each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means.

Solid waste generated by the project would be handled in accordance with the requirements of AB 939. Garbage service and recycling in East Palo Alto is provided by Recology of San Mateo County. Residential and commercial solid waste and recyclable materials collected by the franchise hauler, Recology of San Mateo County, will be taken to Shoreway Environmental Center, a recycling center and transfer station that implements and manages waste reduction and recycling programs.

Solid waste from East Palo Alto is disposed of at the Corinda Los Trancos (Ox Mountain) Landfill near Half Moon Bay. The landfill is owned and operated by Republic Services. According to the Application for Solid Waste Facility Permit and Waste Discharge Requirements, the Corinda Los Trancos (Ox Mountain) Landfill has a remaining capacity of approximately 20 million cubic yards as of April 30, 2018. The landfill

has a cease operation date of January 1, 2034. On an average, the landfill receives 1,700 tons per day of solid waste. The maximum permitted throughput is 3,598 tons per day.

According to California Department of Resources Recycling and Recovery's Disposal Rate Calculator, the disposal rate in East Palo Alto in 2018 was 2.6 pounds per person per day. With a net population increase of approximately 1,332 persons, the proposed project could generate approximately 3,463 pounds per day (1.7 tons per day), or 632 tons per year, of additional solid waste over existing conditions. The average landfill tonnage per day with the proposed project would be approximately 1,910, which would not exceed the landfill's maximum permitted throughput of 3,598 tons per day.

Therefore, the proposed project would not generate solid waste that exceeds the landfill capacity, impair the attainment of solid waste reduction goals, and conflict with state regulations related to solid waste. Impacts would be **less than significant** in this regard.

18.5.4 Cumulative Impact Analysis

The geographic range for the analysis of cumulative utility service impacts is the cumulative list of projects identified in Chapter 4. Each of these projects, as they come on line, could place incremental increased demands upon local utility providers and local infrastructure in and around the City.

Impact UTIL-5: **The project could contribute to cumulatively considerable utilities and service system impacts. This is a less than significant impact with new project infrastructure and conservation policies incorporated.**

Construction Effects

Construction-related impacts associated with new or relocated services or infrastructure would be temporary and mitigated on a project by project basis. As projects would typically be constructed on independent schedules, the effects of such impacts would typically not combine to create a unique or significant environmental effect.

Water Supply and Demand

A January 30, 2020 City Council staff report on the Water Safety Strategy Blueprint outlines three primary challenges to the future of the City's water supply and distribution system:

1. Expansion of the City's water supply and water storage capacity to provide emergency water supply, diversification of the water supply portfolio, and adequacy to meet future water demands.
2. Repairs and upgrades to a water distribution system that is continually deteriorating; and
3. Replacement of water meters to more accurately record water use.

While the City has taken significant steps with respect to water supply by securing an additional 1.5 MGD from Mountain View and Palo Alto, the system needs further diversification and physical upgrades.

A draft water supply assessment prepared for the proposed 2020 Bay Road project, which considered existing demand and the approved and pending projects in East Palo Alto, found that if water supply wells are not constructed, the City will have a deficit by 2040 in normal years and by 2020 for multiple-dry year scenarios. This is in part due to allocations by the Bay Area Water Supply and Conservation

Agency (BAWSCA) not changing during dry years from the water supply assumptions that were used for the 2015 Urban Water Management Plan under either dry year scenario. The reason that the City's allocation did not change is that these assumptions include a specific adjustment to provide sufficient supply for customers served by the City of East Palo Alto water utility. The adjustment ensures that the maximum cutback applied at any given time to East Palo Alto will be no more than 50 percent of the overall average wholesale customer reduction. For both dry year scenarios evaluated, the allocation to East Palo Alto via this adjustment is greater than East Palo Alto's allocation would be in the absence of the adjustment, even with the water transfers from the cities of Mountain View and Palo Alto.[5]

Future water supply was also evaluated with additional water from new wells and conservation measures assumed as part of the General Plan Update. If the minimum project supply from new water supply wells and assumed conservation measures are implemented, the City will meet its demands during normal years but may still be in a deficit by 2040 during multiple dry-years. The project, along with existing and pending development in East Palo Alto, could exceed projected supplies in 2040 during multiple dry years by an estimated 511 acre feet. The annual net increase in water demand for the project (26 acre feet) would be approximately five percent of this projected exceedance.

In future years, the City anticipates that through a combination of increased water supply (e.g., permanent water transfers from the cities of Mountain View and Palo Alto, potential use of recycled water, and/or increased groundwater well yield) and innovative water conservation and water efficiency in new development (such as the use of cisterns or on-site water recycling), the projected shortfall by 2040 in multiple dry years could be reduced to an acceptable level.

The project's primary contribution to cumulative water supply,delivery and fire flow infrastructure is the provision of the 1.5-million-gallon water storage tank and related system infrastructure upgrades. In addition, site-specific water conservation and efficiency measures will be developed in consultation with the City during the building permit process, in accordance with water conservation requirements for new structures and water efficient landscaping in Sections 17.04 and 17.06 of the Municipal Code (Chapter 17 Environmental Control). Measures will include, at a minimum, water efficient plumbing fixtures per the California Green Building Code and demonstrated water conservation in landscape design and installation. As discussed previously, individual projects will be required to demonstrate the adequacy of water supplies prior to issuance of a building permit, in conformance with General Plan Infrastructure, Services, and Facilities Policy 2.4. As with the proposed project, individual projects will also be required to implement site-specific water conservation and efficiency measures in accordance with water conservation requirements for new structures and water efficient landscaping in Sections 17.04 and 17.06 of the Municipal Code (Chapter 17 Environmental Control).

[5] BAWSCA's Long Term Reliability Water Supply Strategy (Strategy) was developed to quantify the water supply reliability needs of the BAWSCA member agencies through 2040, identify the water supply management projects and/or programs (projects) that could be developed to meet those needs, and prepare an implementation plan for the Strategy's recommendations. Successful implementation of the Strategy is critical to ensuring that there will be sufficient and reliable water supplies for the BAWSCA member agencies and their customers in the future. The current Tier 2 Drought Implementation Plan (DRIP) expires on December 31, 2018. In the 2017-2018 fiscal year, BAWSCA intends to work with SFPUC and the member agencies to develop principles for a revised Tier 1 Drought Allocation Plan and a revised DRIP. It is anticipated that the revised DRIP will need to align with long-term water efficiency and water shortage contingency plan requirements adopted by the state, if these requirements move forward.

Providing essential infrastructure consistent with the City's Water Safety Strategy Blueprint, together with compliance with the General Plan and Municipal Code water conservation policies and requirements along with the combination of increased water supply and innovative water conservation and water efficiency measures, would reduce the potential for cumulative water supply impacts in the City of East Palo Alto service area to a **less significant** level.

Wastewater Conveyance and Treatment

As noted previously, the PARWQCP is in good condition and capable of treating wastewater for cumulative development into the future. Existing sewer system infrastructure however, similar to the water system, is aging and may not be capable of accommodating cumulative growth without upgrades to the conveyance system. The project, combined with cumulative project development, could result in sanitary sewer overflow conditions, further capacity impacts and the need for upgrades. Existing deficiencies and system improvements are documented in the City's Master Plan. . These upgrade or improvements could result in temporary construction effects.

Mitigation Measure MM UTIL-3.1 requires limited physical improvements or fair share financial contribution to address this cumulative impact. Fair share financing of major infrastructure projects consistent with an adopted master plan is considered adequate mitigation. Implementation of this measure would mitigate the cumulative effect of the project to a less than significant level. Mitigation of cumulative construction effects would be satisfied by the construction-specific measures cited under UTIL 1, resulting in less than significant impacts.

Stormwater and Solid Waste

The project would increase demands on existing stormwater and solid waste services and facilities. The proposed project is located in the University Circle area and Woodland Park community, on a site that is served by existing infrastructure and services, and the site is currently designated for urban uses. Based upon on the analysis in the Vista 2035 East Palo Alto General Plan EIR and the adopted General Plan Infrastructure, Services, and Facilities policies, the project (which is consistent with the General Plan designation for the site) would not create, or make a considerable contribution to a cumulative impact to solid waste or stormwater facilities.

For these reasons, cumulative impacts to utilities and service systems would be **less than significant**, or would be mitigated by infrastructure provided by the project and through the implementation of standard construction measures over time.

18.6 References

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19 Alternatives

This section describes the CEQA requirements for the analysis of project alternatives and describes the process used to define alternatives to the proposed project. Based on the project impacts identified, this section describes four alternatives to the proposed project and provides a comparative analysis for each. This discussion includes the evaluation of the No Project Alternative, as required by CEQA, a comparison of alternatives and identification of the environmentally superior alternative.

19.1 CEQA Requirements for Alternatives

CEQA requires that an EIR "…describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation." (CEQA Guidelines §15126.6(a))

To comply with this requirement, the City of East Palo Alto evaluated possible alternatives based on the following factors:

- Does the alternative accomplish most of the basic project objectives?
- Is the alternative potentially feasible (from economic, environmental, legal, social, technological standpoints)?
- Does the alternative avoid or substantially lessen any significant effects of the proposed project? Alternatives need be environmentally superior to the project in only some, not all, respects.
- Is the alternative reasonable and realistic? An EIR need not consider an alternative whose effect cannot reasonably be ascertained or whose implementation is remote and speculative, because unrealistic alternatives do not contribute to a useful analysis.

Each of these requirements is described in more detail in the following sections.

19.2 Consistency with Project Objectives

The basic purpose of an EIR's discussion of alternatives is to suggest ways project objectives might be achieved at less environmental cost. Accordingly, alternatives must be able to meet most project objectives, but they need not be able to meet all of them. As stated in the CEQA Guidelines, the EIR's alternatives analysis should focus on alternatives that can eliminate or reduce significant environmental impacts even if they would impede attainment of project objectives to some degree or be more costly (14 CCR §15126.6(b)). The alternatives discussed must, however, be able to attain most of the basic objectives of the proposed project (14 CCR §15126.6(a)). As stated in Chapter 3, Project Description, the following objectives have been identified for the proposed project:

1. **Increase Housing Opportunities**. Develop high quality residential spaces that reflect modern lifestyles, while increase the number of units in the city in response to acute housing demand.

2. **Avoid Displacement**. Develop the project allowing all existing tenants to be able to stay at Woodland Park, with the right of return to newly constructed replacement units at their same rent-stabilized rents.

3. **Preserve Housing Affordability and Stability**. Voluntarily deed-restrict 26% of the total units to be rent-controlled (rent-stabilized), replacing all existing rent-controlled units one-for-one. Preserve the Rent Stabilization Program, ensure housing stability for future tenants, and retain the below market rents of existing tenants.

4. **Balanced Community Benefits**. Provide a balanced mix of community benefits including affordable housing, Westside Area Plan amenities and infrastructure improvements.

5. **Respond to Community Involvement**. Continue to create and seek opportunities to engage with tenants and the community throughout the process with an ongoing Community Involvement Strategy.

6. **Provide Better Parking and Mobility**. Improve parking and mobility options, including significantly more parking and a new bus stop, and improved options for walking, biking, and transit wherever possible. Develop and implement a Transportation Demand Management (TDM) plan.

7. **Provide Safer, Healthier Buildings**. The buildings at Woodland Park are between 50 and over 100 years old, and many are at the end of their useful lives. They were built inexpensively to old standards and were not always cared for by previous owners. The project intends to create safer, healthier buildings that meet or exceed modern seismic and other life safety standards.

8. **Ensure a Fiscally Responsible Project**. Ensure that the City benefits fiscally with project completion and operation.

9. **Address Infrastructure Needs and Clear Community Benefits.** Ensure that any necessary public infrastructure and amenities necessary to serve the project are also consistent with the City's capital improvement goals for the Westside.

10. **Further the Objectives of the General Plan and Westside Area Plan**. Maintain consistency with the 14 Guiding Principles of the Westside Area Plan and enhancing connectivity to the rest of East Palo Alto.

The determination of whether to eliminate or retain alternatives in this EIR was based on each alternative's ability to meet most or all of these objectives, even if the alternative may be more costly than the proposed project.

19.3 Feasibility of Alternatives

CEQA requires that an EIR analyze alternatives that are potentially feasible. Among the factors that may be taken into account when addressing the potential feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or other regulatory limitations, jurisdictional boundaries, and proponent's control over alternative sites in

determining the range of alternatives to be evaluated in the EIR (14 CCR 15126.6(f)(1)). The potential feasibility of potential alternatives considers the following factors:

- **Economic Feasibility**. Is the additional cost of the alternative or lost profits from the alternative sufficiently severe to render it impractical and not feasible? Alternatives that are capable of eliminating or reducing significant environmental effects even though they may be more costly must be considered (14 CCR 15126.6(b)). However, if the additional costs of implementing an alternative or lost profitability associated with an alternative are sufficiently severe, then these factors may render the alternative impractical or economically infeasible.
- **Legal Feasibility**. Are there legal constraints to implementing the alternative? For example, constructing the proposed project on an alternative site may not be legally feasible if the applicant does not own the site or applicable land use regulations or property restrictions prohibit the proposed project. For example, the proposed project may not be legally permissible in wilderness areas, wilderness study areas, restricted military bases, airports, and Indian reservations or on property that is not zoned to allow such a use. Any potential legal constraints affecting an alternative are identified based on a review of applicable local, State, and federal laws, regulations, plans, and policies.
- **Social Feasibility**. Would the alternative cause significant damage to the socioeconomic structure of the community and be inconsistent with important community values and needs? Similar to the environmental feasibility addressed below, this subject is primarily considered in regard to significant environmental effects.
- **Technical Feasibility**. Is the alternative feasible from a technological perspective, considering available technology? Are there any construction, operation, or maintenance constraints that cannot be overcome?

19.4 Potential to Eliminate Significant Environmental Effects

A key CEQA requirement for an alternative is that it must have the potential to "avoid or substantially lessen any of the significant effects of the project" (CEQA Guidelines Section 16126.6(a)). If an alternative is identified that clearly does not have the potential to provide an overall environmental advantage as compared to the proposed project, it is usually eliminated from further consideration.

No Project Alternative

In addition to studying a reasonable range of alternatives based on the criteria set forth above, CEQA requires the EIR to analyze a "no-project" alternative. Consideration of the No Project Alternative is required by Section 15126.6(e) of the CEQA Guidelines. The analysis of the No Project Alternative must discuss the existing conditions at the time the Notice of Preparation was published (April 22, 2020), as well as: "what would be reasonably 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" (CEQA Guidelines Section 15126.6 (e)(2)). The requirements also specify that: "If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed" (CEQA Guidelines Section 15126.6 (e)(3)(B)).

19.5 Alternatives Evaluation Process

The City of East Palo Alto identified a range of alternatives based on the screening criteria set forth above. The City also considered oral and written comments received during the CEQA scoping process that recommended or identified potential project alternatives. The range of alternatives considered in the screening analysis encompasses:

- Potentially feasible alternatives that may have been identified during the public scoping process.
- Potentially feasible alternatives that the City has identified as a result of the independent review of the proposed project impacts.

19.6 Alternatives Eliminated from Further Consideration

Alternative Site. Alternative sites are generally evaluated in an EIR to avoid, lessen or eliminate the significant impacts of a project by considering the proposed development in an entirely different location. To be feasible, development of off-site locations must be able to be legally, practically, and financially viable, as well as meet most of the project's stated objectives.

The evaluation of alternative sites is best used for projects such as power plants, treatment plants, solar farms, public facilities and similar uses, where a public agency or other entity has land use control over multiple sites, and the sites can be evaluated for environmental, financial, scientific or other constraints.

In this case Sandhill Properties does own other properties within the Woodland Park community; however, the specific grouping of properties proposed for the project are those that are closest to the end of their useful life and are located in an area (adjacent to University Circle) that is more compatible with an increase in height and density. A similar development on another site in East Palo Alto would also likely have similar impacts and would not reduce or eliminate impacts. For these reasons, an alternative site is not feasible.

Increased Parking Alternative. Such an alternative would increase the number of on-site parking spaces by increasing the size of the parking garage component. The parking ratio would be increased from an average of 1.1 off street spaces per unit to 1.3 spaces, resulting in 787 spaces, or an increase of 162 spaces over the current proposal. It is assumed that the 1.3 spaces per unit ratio would be maintained, regardless if the project lost units to accommodate the additional parking area. The purpose of this alternative would be to reduce the potential for exacerbating constraints upon on-street parking opportunities.

This alternative has been rejected from analysis primarily because parking is a matter of code compliance and parking management, and not an acute environmental issue recognized within the CEQA Guidelines. As such, providing additional parking would not reduce or eliminate any environmental impacts identified in the EIR.

Mixed Use Alternative. This alternative would incorporate up to 25,000 square feet of new community serving commercial use into the ground floor of the project. This alternative would yield approximately 530 apartments compared to the proposed 605. The purpose of this alternative is to provide a broader mix of land uses within the neighborhood and reduce vehicle trips by providing some essential services within walking distance to new and existing residents. Off street parking spaces are assumed to be essentially the same, but with a portion of the parking structure dedicated for the commercial use.

This alternative has been rejected from analysis because it has environmental advantages that are similar to the "reduced scale" alternative analyzed below, and because commercial land use incorporated into the project at this scale is currently considered an infeasible use and not economically viable to the point where primary objectives would not be met.

19.7 Alternatives Selected for Analysis

19.7.1 No Project Alternative

Description

This required alternative assumes that no project would be built, and that the existing inventory of apartment buildings and units within the project would remain for the foreseeable future. If existing uses and structures were to remain, it is assumed the owners would maintain the property over time and until the end of its useful life, but no major redevelopment or intensification would occur.

Ability to Meet Project Objectives

The No Project alternative would not meet the basic objectives of the proposed project. While maintaining the existing structures and densities at the site continue to provide some level of rent stabilized housing, this alternative would fail to advance the goals and policies of the Westside Area Plan regarding expanding housing opportunities and beautification.

Comparative Analysis of Environmental Impacts

Under the No Project Alternative, none of the construction and operational project impacts identified in this EIR would occur. The neighborhood would be maintained and operate similar to existing conditions, buildings would continue to age and require continued maintenance, and no specific public benefits or infrastructure improvements would be realized.

19.7.2 Alternative A: Transfer of Heights

Description

This alternative would further consolidate and concentrate the higher (13 level) elements of the project near the freeway. Building A (west of Euclid Avenue) would remain unchanged. However, Building B (that wraps the parking garage) would be reduced by one level, resulting in a structure that is 8 levels and 81' in height. Building C (high rise) would be increased by 10 levels (transferring units and height from Building B), resulting in 23 levels with a height of 231 feet. This height assumes 10' interior ceiling heights.

The total number of apartment units and parking spaces is assumed to be the same as the proposed project. The purpose of this alternative is to address community character concerns of project bulk and mass within the existing neighborhood.

Ability to Meet Project Objectives

This alternative would meet most or all of the primary project objectives because it would result in a project that is substantially the same as the proposal in terms of uses, unit count, public benefits and other features.

Comparative Analysis of Environmental Impacts

With the exception of aesthetics and the visual appearance of the project, all predicted environmental effects of this alternative would be the same or similar to the original proposal. All effects related to construction and ground disturbance, excavation, air quality, noise, transportation, public services, land use, etc. would still occur. The project footprint would remain the same, the construction schedule and emissions would be very similar, and the project would generate the same VMT because the number of units would remain unchanged.

With respect to aesthetics, the maximum building heights near the freeway would be taller, and consequently would extend the project's shadows. The high rise structure (Building C) would be more visible and prominent from many vantage points including the freeway and surrounding neighborhoods. While the overall massing of the project near the interior of the neighborhood would be reduced, this alternative would still provide a significant deviation from existing zoning standards, which was found to be a significant unavoidable aesthetic consequence of the proposal. This conclusion would not change with this alternative based on the thresholds of significance; however, the development could subjectively be viewed as "more compatible" with the existing neighborhood in the opinion of residents and decision makers with a reduction in height in Building B.

19.7.3 Alternative B: Reduced Scale Alternative

Description

Under this alternative, Buildings B and C essentially become one large 8-story structure 81 feet high, eliminating the "high rise" that was Building C. Building A west of Euclid Avenue would remain unchanged. This alternative would result in approximately 460 apartment units (a 24 percent reduction) and 480 parking spaces within the parking structure. The proposed onsite parking ratio of 1.1 spaces unit would be maintained. Commercial areas, park, and community space (and other community benefits), including the number of dedicated affordable units (above the City minimum), are also assumed to be significantly reduced or eliminated as a tradeoff for a reduction in units, and the square footage of the units is assumed to be smaller to maximize the development envelope. The purpose of this alternative is to reduce the degree of aesthetic impact related to community character, massing and density, reduce demands on infrastructure and public services, and reduce vehicle miles travelled and associated air quality and GHG emissions.

Ability to Meet Project Objectives

This alternative would meet some, but not all, of the project objectives regarding affordable housing; however, community benefits and open space objectives would be difficult to meet.

Comparative Analysis of Environmental Impacts

Aesthetics. Aesthetic and visual impacts of Alternative B would be reduced in comparison to the original proposal. As currently proposed, Building C is a 13 story at 120 feet high. This alternative would reduce the structure height by 5 stories at 39 feet, reducing shadows and overall building intensity. Overall, the scale and massing of the project would be reduced compared to the proposed project, although a single, uniform structure would not provide as much architectural variation or interest in design.

Air Quality. The entire site would still be prepared, graded and developed, and residential and commercial uses would be developed resulting in a slight reduction in construction emissions from a reduction in apartment count and elimination of the commercial component. With a reduction in development intensity, operational effects could result in a slight reduction in mobile air quality emissions.

Biological Resources. Effects to biological and tree resources at the site would be similar to the project, as the construction and operational effects would also be very similar.

Cultural and Tribal Cultural Resources. Environmental impacts associated with cultural (historic and prehistoric) resources would be similar under Alternative B, as the level of grading, ground disturbance and potential for resource discovery would still occur.

Energy. The energy demands of the Alternative B would be slightly reduced compared to the proposed project, as the overall construction and operational energy demand of residential uses would be reduced by fewer apartments and elimination of the commercial component.

Geology and Soils. Alternative B would still require site grading and excavation over the entire project footprint to support residential uses; however, with elimination of the high-rise tower, specialized engineering, site and foundation work would not be as intensive to support the high rise. Impacts would be slightly reduced in terms of earthwork and excavation.

Greenhouse Gas Emissions. The entire site would still be prepared, graded and developed, and residential and commercial uses would be developed resulting in a slight reduction in construction emissions from a reduction in apartment count and commercial areas. Mobile emissions and associated GHGs would be reduced correspondingly, resulting in a slight reduction in GHG emissions compared to the project.

Hazards and Hazardous Materials. All potential effects of developing the site and demolition/disposal of existing structures would also occur under this alternative. Therefore, impacts would also be similar.

Hydrology and Water Quality. As the project footprint for Alternative B would be similar to the original proposal. The changes in drainage patterns, and application of all water quality regulations in the project design would be the same. The amount of runoff would be slightly reduced from the lower apartment count and commercial uses.

Land Use, Housing and Population. Chapter 14 of this EIR concluded that the project was compatible with the environmental objectives of the Westside Area Plan, and the increase in population is not unplanned. Similar to the proposed project, Alternative B would be largely consistent with the Westside Area Plan although the total population and density resulting from the alternative would be lower. Secondary effects resulting from the population increase would be slightly reduced and less than significant.

Noise. Given Alternative B would result in fewer residential units and a reduction in commercial uses, operational noise levels would be anticipated slightly reduced from the proposed project. Temporary construction noise would be similar.

Public Services. Under Alternative B, the basic uses and development program would be similar to the proposed project, but with a decrease in residential units and commercial areas. There would be a

corresponding reduction in demand from public service providers. Compared to the proposed project, the degree of impact would be slightly reduced.

Transportation. The reduction in apartment units, community spaces (and other community benefits), and commercial areas would be predicted to result in a slight reduction in trip generation and VMT as there would be less residents.

Utilities and Service Systems. The reduction in residential apartments under Alternative B would result in a corresponding reduction in residential water demand, wastewater flows, and dry utility demand. However, this slight reduction in demand would not reduce the significance of any impacts as identified in this EIR. Compared to the project, the degree of impact would be slightly reduced, particularly as this option would use less water.

19.7.4 Alternative C: Water System Intertie Alternative

Description

This alternative would eliminate the construction of the 1.5-million-gallon water tank proposed at 375 Donohoe Street. As an alternative to that infrastructure improvement, the applicant would complete an emergency intertie with the City of Palo Alto's water system at University Avenue. All other aspects of the project would remain the same. This alternative is intended to provide a comparison of environmental effects only for CEQA purposes and does not reflect or assume any political or engineering preferences by either East Palo Alto or Palo Alto.

Ability to Meet Project Objectives

This alternative is more narrowly focused on key infrastructure systems and improvements. As such, the alternative would meet the basic objective of improving water infrastructure on the West Side.

Comparative Analysis of Environmental Impacts

Aesthetics. Under Alternative C, aesthetic and visual impacts would be reduced in comparison to the proposed project. The existing pop-up park located at 375 Donohoe Street would continue to remain in place and the residential character of this parcel would remain unchanged.

Air Quality. Because no development of the water tank would occur under Alterative C, overall construction-related emissions would be slightly reduced. Eliminating the construction of the water tank would also result in slightly reduced operation-related emissions compared to the proposed project. These emissions would be reduced by the elimination of the construction and operation of the diesel-powered pump station.

Biological Resources. Effects to biological and tree resources at the site would be reduced compared to the project, as the site located at 375 Donohoe Street would remain unchanged. The existing 10 trees at this location would not need to be removed to accommodate tank construction and related improvements.

Cultural and Tribal Cultural Resources. Environmental impacts associated with cultural (historic and prehistoric) resources would be slightly reduced under Alternative C, as the level of grading, ground disturbance and potential for resource discovery would still occur, but not include the footprint of the water tank parcel.

Energy. The energy demands of the Alternative C would be slightly reduced compared to the proposed project, as construction and operation of the water tank and diesel-powered pump station would be eliminated.

Geology and Soils. Because Alternative C would still require site grading and excavation to support residential and commercial uses, impacts would be similar.

Greenhouse Gas Emissions. Because no development of the water tank would occur under Alterative C, overall construction-related emissions would be slightly reduced. Eliminating the construction of the water tank would also result in slightly reduced operation-related emissions compared to the proposed project. These emissions would be reduced by the elimination of the construction and operation of the diesel-powered pump station.

Hazards and Hazardous Materials. All potential effects of developing the site and demolishing/disposal of existing structures would also occur under this alternative. Eliminating construction of the water tank would not significantly change the primary effects associated with demolition. Impacts would be similar.

Hydrology and Water Quality. Under Alternative C, the project footprint would be slightly reduced because the site at 375 Donohoe Street would be excluded from the project. Eliminating the construction of the water tank would result in slightly reduced impervious surface area and fewer construction-related water quality effects.

Land Use, Housing and Population. Under Alternative C, the project would still be compatible with the environmental objectives of the Westside Area Plan. While this alternative eliminates construction of a water tank, the project would still be compatible with Guiding Policy 9.5 in the Westside Area Plan which intends to provide infrastructure for new development. The project would still meet this by completing an emergency intertie with the City of Palo Alto's water system at University Avenue. In addition, the project's development program and the potential effects would be similar. The projected increase in population would be the same and less than significant.

Noise. Construction-related activities under this alternative would be slightly reduced compared to the proposed project, as the construction area required for the water tank would be eliminated. Operational noise impacts under Alternative C would also be slightly less than under the proposed project, since there would be no associated back-up generator to support the pump station on the water tank parcel.

Public Services and Recreation. As the basic uses and development program under Alternative C would be similar to the proposed project, the relative effect upon public service providers (e.g. police, fire, schools, and libraries) would be similar and would remain less than significant. The existing pop-up park located at 375 Donohoe Street would not be affected by temporary construction and would continue to serve as a nearby recreational facility for Westside residents.

Transportation. As the basic uses and development program under Alternative C would be similar to the proposed project, the relative effect upon traffic and circulation would be similar and would remain less than significant. Similar to the proposed project, traffic management consistent with industry standards would also be employed to allow continued safety and circulation around the construction area for the emergency intertie.

Utilities and Service Systems. From a strictly environmental perspective, Alternative C would result in reduced environmental impacts because the construction of the interie, compared to the water tank site and all associated piping upgrades, would be less intensive. Because Alternative C would not involve any changes in apartment units, population or associated land uses compared to the project, there would be no additional demands on wastewater conveyance or treatment facilities, water supply, stormwater facilities, or solid waste infrastructure beyond what was analyzed for the project. In addition, construction impacts from the 1.5-million-gallon water tank would not occur, because the water tank – a community benefit key infrastructure improvement - would likely be infeasible.

19.7.5 Alternative D: West Bay Sanitary District Connection

Description

West Bay Sanitary District (WBSD) provides wastewater collection and conveyance services to the City of Menlo Park, Atherton, and Portola Valley, and areas of East Palo Alto, Woodside and unincorporated San Mateo and Santa Clara counties. WBSD conveys raw wastewater, via the Menlo Park Pump Station and force main, to Silicon Valley Clean Water (SVCW) for treatment and discharge to the San Francisco Bay. Current District boundaries are to the northwest of the project site.

This alternative would convey wastewater from the existing sanitary sewer system immediately adjacent to the site (East Palo Alto Sanitation District [ESPSD] facilities) to a new connection point with nearby WBSD conveyance infrastructure. The purpose of this alternative is to directly address a significant impact of the project related to existing constraints on ESPSD system capacity. All other aspects of the project would remain the same. This alternative is intended to provide a comparison of environmental effects only for CEQA purposes. This alternative also assumes that no WBSD system or pipe upgrades would need to be constructed to accommodate the additional wastewater flows.

Ability to Meet Project Objectives

This alternative is focused on key infrastructure systems and improvements to avoid existing constraints. As such, the alternative would meet the basic objective of improving wastewater service on the West Side and all other project objectives.

Comparative Analysis of Environmental Impacts

Aesthetics. Under Alternative D, aesthetic and visual impacts would be the same as the project as all improvements and differences are below ground.

Air Quality. Because the project could result in the construction of sewer upgrades below ground, connection to WBSD would have slightly fewer air quality effects caused by construction activity.

Biological Resources. There would be no significant differences in biological resource impacts between the project and Alternative D as the improvements are below ground.

Cultural and Tribal Cultural Resources. There could be a slightly greater area of ground disturbance and effects related cultural resource impacts with Alternative D as the connection to WBSD may require construction to the new connection point. However, any ground disturbance is subject to standard conditions in the event of inadvertent discovery of resources, resulting in similar effects.

Energy. The energy demands of the Alternative D would be essentially the same as the project.

Geology and Soils. Alternative D and the project could both result in earthwork from construction of the new connection point and construction of system upgrades, respectively. However, impacts would be similar and would not cause new significant impacts.

Greenhouse Gas Emissions. Because the project and Alternative D would both connect to existing systems, GHG emissions would essentially be the same.

Hazards and Hazardous Materials. Neither sewer alternative would involve the use or transport of hazardous materials. Impacts would be similar.

Hydrology and Water Quality. Both sewer alternatives would convey wastewater to a treatment plant, and all facilities are below ground. Impacts would therefore be similar between the project and Alternative D.

Land Use, Housing and Population. Under Alternative D, the project would remain compatible with the environmental objectives of the Westside Area Plan, including Guiding Policy 9.5 in the Westside Area Plan which intends to provide infrastructure for new development. This alternative would have no direct or indirect impacts on housing or population growth, although the alternative could free up capacity for other users within the East Palo Alto Sanitation District system. While not an environmental impact, connection to WBSD would likely require approval by San Mateo County LAFCO to amend the district boundary.

Noise. Noise generated by Alternative D would be inconsequential, at most consisting of temporary construction noise associated with construction of the connection point. Impacts would be similar to the project, which may also require some construction associated with infrastructure upgrades.

Public Services and Recreation. Alternative D would have no effect on public services and recreation facilities, and impacts would be identical to the project.

Transportation. The Alternative D sewer connection would have no vehicle miles travelled (VMT) or traffic safety impacts and therefore all effects would be similar to the project as proposed.

Utilities and Service Systems. Alternative D would directly address an identified significant impact related to existing constraints within the East Palo Alto Sanitation District conveyance system. As such, this alternative would mitigate that impact and result in a less than significant impact.

19.8 Comparison of Alternatives Summary

CEQA requires the following for alternatives analysis and comparison:

> "*The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed* (CEQA Guidelines Section 15126.6(d))."

The comparative merits of each alternative are provided in the narrative evaluation above. However, Table 19-1: Comparison of Impacts Against the Proposed Project, provides a visual representation of this comparison in graphic format.

Table 19-1: Comparison of Impacts Against the Proposed Project

Subject/Area of Analysis in the EIR	No Project Alternative	Alternative A: Transfer of Heights	Alternative B: Reduced Scale Alternative	Alternative C: Water System Intertie Alternative	Alternative D: WBSD Connection
Aesthetics	Reduced	Greater	Reduced	Reduced	Same
Air Quality	Reduced	Similar	Slightly Reduced	Slightly Reduced	Slightly Reduced
Biological Resources	Reduced	Similar	Similar	Reduced	Similar
Cultural and Tribal Cultural Resources	Reduced	Similar	Similar	Slightly Reduced	Similar
Energy	Reduced	Similar	Slightly Reduced	Slightly Reduced	Similar
Geology and Soils	Reduced	Similar	Slightly Reduced	Similar	Similar
Greenhouse Gas Emissions	Reduced	Similar	Slightly Reduced	Slightly Reduced	Similar
Hazards and Hazardous Materials	Reduced	Similar	Similar	Similar	Similar
Hydrology and Water Quality	Reduced	Similar	Slightly Reduced	Slightly Reduced	Similar
Land Use	Reduced	Similar	Slightly Reduced	Similar	Similar
Noise	Reduced	Similar	Slightly Reduced	Slightly Reduced	Similar
Public Services	Reduced	Similar	Slightly Reduced	Similar	Similar
Transportation	Reduced	Similar	Slightly Reduced	Similar	Similar
Utilities and Service Systems	Reduced	Similar	Slightly Reduced	Reduced	Reduced

19.8.1 Environmentally Superior Alternative

In this section, the City of East Palo Alto has identified the Environmentally Superior Alternative, as required by CEQA Guidelines Section 15126.6(d) and (e)(2). Based upon the comparison above, the No Project Alternative would result in the fewest environmental impacts.

If the environmentally superior alternative is the No Project Alternative, CEQA requires identification of an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)).

Pursuant to the CEQA Guidelines, Alternative D, West Bay Sanitation District Connection, would be the Environmentally Superior Alternative. This alternative would directly address and mitigate one the project's otherwise unavoidable impacts (sewer capacity). The potential impacts of the remaining areas of study are very similar to the project.

Alternative A would meet most or all of the primary project objectives, but it would result in potentially greater impacts to aesthetics in comparison to the other alternatives. While this alternative would concentrate the higher elements near the freeway, it would be considerably more visible and prominent from many vantage points and extend the project's shadows. For these reasons, Alternative A is not environmentally superior to the proposed project or the other alternatives.

Alternative B would incrementally reduce the overall visual impact of the proposal through the elimination of the high-rise tower and by providing less intensification within the existing neighborhood. With less intensification, this alternative would incrementally reduce demands on infrastructure and public service systems and reduce vehicle miles travelled, which translates to a reduction in air quality and GHG emissions, noise, and traffic operational effects. As a tradeoff for reduced development intensity, community benefits (e.g. affordable housing commitments, commercial areas, park and community space, and/or larger infrastructure improvements) are also assumed to be reduced, which could reduce or eliminate some of the basic project objectives and intentions regarding these benefits. Alternative B would not, however, fully mitigate the significant and unavoidable effects associated with visual resources, aesthetics and community character as identified in this Draft EIR. And despite the reduction in intensity, Alternative B would still exacerbate capacity constraints on the sewer system.

Alternative C would have some environmental benefits, as it would slightly reduce the project's effects related to aesthetics, air quality, cultural and tribal cultural resources, energy, greenhouse gas emissions, hydrology and water quality, and noise related to construction and operation of the 1.5 million gallon water tank at 375 Donohoe Street. However, these effects would only be reduced by a matter of degree, and impact reduction would be very localized to the parcels immediately adjacent to this parcel. This alternative would not reduce the significant unavoidable effect of the project related to visual resources, but it would reduce visual impacts incrementally and would avoid additional tree removal (without construction of the tank).

20 Other CEQA Considerations

The information in this chapter presents several additional considerations and required subjects related to the project's environmental effects. Consistent with CEQA Guidelines Section 15126, an EIR must include the following subjects shown in Table 20-1: Consideration and Discussion Environmental Impacts. The table identifies where several of these specific subjects are contained in the EIR. Remaining subjects are discussed in this chapter.

Table 20-1: Consideration and Discussion Environmental Impacts

Required Subject	Location with the EIR
Significant Environmental Effects of the Project	Within the analysis of each subject in Chapter 5 through Chapter 18
Significant Environmental Effects Which Cannot be Avoided if the Project is Implemented	Within Chapter 5 (Aesthetics) and Chapter 18 (Utilities and Service Systems)
Significant Irreversible Environmental Changes Should the Project be Implemented	Chapter 20, in the paragraphs below
Growth Inducing Effects of the Project	Chapter 20, in the paragraphs below
Mitigation Measures Proposed to Minimize Significant Effects	Within the analysis of each subject in Chapter 5 through Chapter 18
Alternatives to the Project	Chapter 19

20.1 Significant Irreversible Environmental Changes Caused by the Project

Section 15126.2(c) of the State CEQA Guidelines requires an EIR to discuss the significant irreversible environmental changes that would result from implementation of a proposed Project. Examples include: primary or secondary impacts of the project that would generally commit future generations to similar uses (e.g., highway improvements that would provide access to a previously inaccessible area); uses of nonrenewable resources during the initial and continued phases of the project (because a large commitment of such resources make removal or nonuse thereafter unlikely); and/or irreversible damage that could result from any potential environmental accidents associated with the project.

Changes in Land Use Which Commit Future Generations

While the project involves a General Plan Amendment to allow for higher density use of the property, the Euclid Improvements development project would not (with the exception of the water tank site) convert undeveloped land, agricultural land or mineral resource reserves to urban use. (The 0.47-acre water tank site is a vacant lot surrounded by urban development). Nor would the project create new highways or similar improvements that would provide access to an otherwise inaccessible area. As the project would redevelop residential uses in an existing residential area, the change (intensification) of land use and residential density would not commit future generations to a new or substantially different use that would cause irreversible environmental changes.

Consumption of Non-Renewable Resources

The EIR is required to consider whether "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 non-use thereafter unlikely" (CEQA Guidelines Section 15126.2(c)). "Nonrenewable resource" refers to the physical features of the natural environment, such as land, waterways, etc. This may include current or future uses of non-renewable resources and secondary or growth-inducing impacts that commit future generations to similar uses. According to the CEQA Guidelines, irretrievable commitments of resources should be evaluated to ensure that such current consumption is justified.

A variety of resources, including energy, water, construction materials, and human resources would be irretrievably committed for the project's initial construction, infrastructure installation, and connection to existing utilities and its continued maintenance. Construction of the proposed project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing maintenance and life of the proposed project. An increase in the intensity of land use of the project site would result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the project would increase consumption of available supplies, including gasoline. These energy resource demands relate to initial project construction, project operation, and on-going maintenance, as well as the transport of people and goods to and from the project site.

Development of the project site will be reviewed for consistency with the adopted General Plan, as the General Plan includes numerous policies and actions to ensure that future development within East Palo Alto minimizes potential environmental impacts and contributes to the quality of life envisioned by the General Plan. These Policies and Actions are intended to promote a heathy community and energy conservation, focusing on energy efficiency in design, materials, construction, and use of buildings, alternative transportation modes and energy systems. The proposed project assumes the incorporation of these Policies and Actions into the project, as evidenced by the project design, TDM program, street greening, open space plan and other features. Further, additional site-specific mitigation measures have been identified that require the project to reduce or avoid consumption of non-renewable resources during construction and operation.

Irreversible Damage from Environmental Accidents

The project does not propose any land uses which could generate hazardous emissions or that would involve the handling of hazardous materials, substances, or waste in significant quantities that would have an impact to surrounding uses. The types of hazardous materials that would be routinely handled (e.g., household cleaners, paints, pesticides, petroleum, oil, lubricants, thinners, fertilizers, solvents, aerosols, corrosives, fuels, and heating oils) are similar to those that typically occur in residential and commercial land uses. Accidental spills of fuel, paints, or other construction-related materials might occur during construction. However, these types of accidents would be limited because site development would be implemented subject to existing State and local regulations regarding site construction. Such potential spills, if they occur, would not result in irreversible environmental changes. The proposed Project may include storage of hazardous materials, such as cleaning products and other products, which would not be regarded as sufficient to create a significant hazard to the public. All hazardous materials would be subject to existing State and local storage, handling, and disposal

regulations that limit the potential exposure to workers and the public. Although not anticipated, if a facility is proposed that has a threshold quantity of a regulated substance greater than as specified by the applicable health and safety code, then the facility would be required to prepare and implement a Hazardous Materials Risk Management Plan (RMP) for that facility. All uses and facilities, including commercial uses, are required to comply with all applicable federal, State, and regional regulations regarding hazardous material generation and usage on the site. Specific regulations are discussed in Chapter 12 (Hazards & Hazardous Materials). To minimize potential impacts associated with the accidental release of hazardous materials (known or unknown) into the environment during construction, Mitigation Measures HAZ-1.1 and HAZ-1.2 would be implemented. With implementation of these mitigation measures, impacts associated with the accidental release of hazardous materials from demolition would be reduced to a less than significant level.

20.2 Growth-Inducing Effects

Section 15126.2(d) of the State CEQA Guidelines provides the following guidance on growth-inducing impacts: a project is identified as growth inducing if it "could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."

A project can have direct and/or indirect growth-inducement potential. Direct growth inducement would result if a project involves construction of new housing. A project can have indirect growth-inducement potential if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand.

Similarly, under CEQA, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. Increases in population could tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The CEQA Guidelines also require analysis of the characteristics of projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

The Woodland Park Euclid Improvements Project would directly induce growth within the community by increasing the development intensity on the subject parcels and increasing the total number of apartments in this location by 444 units.

The project could also induce growth indirectly by making certain infrastructure improvements, specifically increased water system capacity for municipal storage and fire flow, that could improve water reliability on the Westside. The project's infrastructure upgrades would accommodate the project but would also be considered a public benefit to address existing system constraints on the Westside. With improved infrastructure systems and utility capacity, barriers to further intensification may be removed to some degree, allowing for other projects to move forward on the Westside.

A second source of indirect growth inducement may also occur because the project may serve as a catalyst for new redevelopment and intensification efforts on the Westside. A well-designed project of this size, if successfully implemented, could conceivably stimulate the market for similar projects on

other Westside properties. If such projects are constructed at a higher density than existing development, the project could be considered growth inducing.

These potential scenarios for growth inducement, however, are consistent with the vision of the Westside Area Plan (WAP). While the WAP does not prescribe a specific level of intensification the policies within the plan clearly envision higher densities with a high level of architectural quality and design and community benefits. Such benefits include expanding the City's inventory of affordable housing opportunities.

The environmental implications of land use intensification on the Westside would be evaluated on a project-specific and cumulative basis as projects are processed and evaluated under CEQA. The General Plan EIR also considered assumptions and changes in land use at a programmatic level. While the project could result in growth inducing environmental effects, such effects have been anticipated within the framework of the City's planning efforts in the Westside and city-wide.

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